

Taking Action! Movement-based Learning

For the Kindergarten Through Grade Three Learner

A Case Study of a Waldorf Education Early Childhood Program

By

Andrew Darian

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Graduate Supervisory Committee:

Elaine Surbeck, Chair
Elizabeth Swadener
James Christie

ARIZONA STATE UNIVERSITY

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ABSTRACT

The purpose of this dissertation was to document the teaching practices and underlying intentions of teachers in a Waldorf early childhood program in relationship to integrative movement and its connections to learning for the kindergarten through grade three learner. Current concerns about unhealthy sedentary lifestyles and the decreasing emphasis on physical activity/movement in public schools are growing. This dissertation explores current educational research related to the effects of movement on cognitive processing and the potential effects of movement on learning, particularly in a Waldorf-based early childhood program in which movement is integrated into all aspects of learning (including all academic subjects). This dissertation includes a literature review of current research and theory, and a qualitative micro-ethnographic case study of a Waldorf-based early childhood program that involved teacher observations and interviews. Key findings: the Waldorf-based early childhood program provided practical methods for (1) encouraging various modes of free play intended to enhance a child's physical, social/emotional and academic development, (2) integrating teacher-led movements into the daily curriculum, (3) utilizing movement to aid cognitive processing and prepare students for more sedentary academic work, (4) integrating remedial work into the daily classroom curriculum, and (5) utilizing intentional movement to help a child learn to embody stillness as a means of focusing attention and energy. Movements integrated into the curriculum by the teachers created observable positive effects on the students: eagerness to participate, recall, extending focus and attention, and

creating social awareness and cooperation. Conclusions: (1) Waldorf-based education programs may provide practical examples and theoretical perspectives relevant to the creation of an integrated and comprehensive movement-based curriculum for the early childhood learner, and (2) The Waldorf teachers studied provide a counter-position to early childhood teaching practices that utilize movement as a break from sedentary learning. This study revealed the effects of imposing or integrating stillness into a movement-rich curriculum. Future recommendations include more comprehensive research on Waldorf-based educational programs and educational research that reaches beyond movement's potential positive or negative effect on a student's academic progress to study in more depth how and why movement impacts learning for the young child.

Keywords: Movement-based learning; Movement-based curriculum; Early Childhood; Waldorf Education; Steiner Education; Free play; Teacher-led movement; Sedentary; Stillness; Eurythmy

DEDICATION

To my soul mate Shea Darian. Thank you for the hours and years of patience and guidance during this process. Without your support and presence, life would be dull. I am forever grateful.

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INTRODUCTION

Context of Study

I am not old enough to remember the bolted-down desks that crisscrossed the classrooms of many a U.S. school in the 1930's, 40's and 50's. I have only read accounts of those who reminisce with pleasure on the “good old days” – when a desk had its place in the classroom, and a child knew they could count on their cubic four feet of space every school day.

By the time I entered Garvey Elementary School on the northwest side of Chicago in the late 1960's, the systematic surety of the old bolted-down desks were quickly becoming a thing of the past. Freeing desks from their fixed place in the classroom ushered in a new era in teaching. According to D.B. Stein:

(Moveable desks) were the product of a period of time when the philosophy of education changed to the open classroom and a very permissive environment. This was actually the result of a new philosophy in psychology that became popular in the sixties called Rogerian Therapy, which came from the writings of Carl Rogers. It failed in psychology and it failed in education. Even though it was a disaster, the moveable desks... have remained. I would love to see the old bolted down desks return (Stein, 2006)

Conversely, from an Early Childhood teacher's perspective, the restrictions of bolted classroom furniture might easily be seen a deterrent to creativity and freedom of movement. In the first half of the twentieth century, stationary classroom furniture set up obstacles for teachers and learners in the kindergarten and primary grades at a time when education in the Early Childhood classroom included a plethora of hands-on activities, like art, music, movement, games and dance, and included plenty of outdoor play and recess time (Brosterman, 1997).

The irony of today's mainstream educational practices is that desks can be freely moved while too often children are "bolted" to their desks. I have witnessed children "mentally chained" to their chairs as a student teacher supervisor at a large university in the southwest region of the United States. Over the course of three semesters from Spring 2009 to Spring 2010, I observed in thirty-seven Early Childhood classrooms. Thirty-five of the thirty-seven mentor teachers I observed repeatedly told children to "sit still," "don't talk," "sit quietly until others are finished," "stop fidgeting." When a child was sent to the "corner" or for a "time-out," the child was not sent to the "corner" alone. Oh, no, the desk went with them. The child remained attached to the chair that, ironically, at least to me, seemed to be the source of their unrest.

The sedentary teaching styles I observed as a supervisor were a stark contrast to my past teaching experience in Waldorf, or Steiner, Education. The founder of Waldorf Education, an Austrian philosopher named Rudolf Steiner, believed in the importance of a movement-rich environment for the young child. My ten years of experience teaching preschool through eighth grade in four Waldorf schools convince me that movement is a significant determinant in a child's learning process.

Susan Johnson, a behavioral and developmental pediatrician emphasizes why physical movements – typical in the Waldorf School Early Childhood classroom – are significant to a child's academic learning. She advocates for desk-free Preschool and Kindergarten classrooms. Doctor Johnson writes:

It is time to remove the desks from Kindergartens and preschools. Our Preschools and Kindergartens need to fill their curriculums with play consisting of lots of sensory integration activities that will strengthen fine motor movements, visual motor abilities, balance, muscle tone, proprioception, as well as strengthen children's social and emotional development. Activities like imaginary play, climbing, running, jumping, hopping, skipping, walking the balance beam, playing circle games, singing, playing catch, doing meaningful chores, painting, coloring, playing hand clapping games, doing string games, and finger-knitting will strengthen their minds for learning. Children need these healthy, harmonious, rhythmic, and non-competitive movements to develop their brains. For it is the movements of their body and their love for learning that create the pathways in their mind for reading, writing, spelling, mathematics, and creative thinking (Johnson, 2008).

The movement experiences Dr. Johnson outlines were normative in my Waldorf teaching. For over a decade, I watched children develop and grow academically through the use of movement as a learning tool. Thus, the ironclad sedentary teaching styles prominent in the classrooms I observed as a student teacher supervisor prompted my interest in this study. Given the integral role of movement in the Waldorf Education early childhood curriculum, the Waldorf early childhood classroom provides multiple examples of how meaningful movement may serve to enhance and deepen a young student's learning process.

Purpose of Study

The purpose of this literature review and micro-ethnographic case study was to document the underlying intentions of teachers in a Waldorf early childhood program in relationship to integrative movement and its connections to learning for the pre-kindergarten through grade three learner. The study focused on curriculum development, teacher preparation (training), the teacher's use of

movement throughout the school day, and their integration of daily movement rhythms and rituals in teaching methods and practices.

Objectives of the Study

The objectives of this study were:

1. To investigate the training, beliefs, practices and implementation of movement by individual pre-kindergarten through grade three Waldorf educators teaching in a Waldorf education early childhood program in the Phoenix, Arizona metropolitan area
2. To observe the relationship between Waldorf teachers' beliefs about movement's role in learning and the teacher's practical implementation of movement as a tool for learning in the early childhood classroom

Research Questions

1. Given current concerns about unhealthy sedentary lifestyles (in the USA and other Westernized nations) and the decreasing emphasis on physical activity/movement in public schools, what can be learned from ways in which movement is enacted in Waldorf education (practice)?
2. What movement practices do Waldorf teachers incorporate into their curriculum (as identified in participant observation)?
3. What beliefs and philosophical underpinnings related to the value of movement are guiding Waldorf teachers' practices as they carry out their curriculum in the classroom?
4. In reference to movement implemented by the Waldorf teachers, what effects on the children are observable by the researcher?

Theoretical Framework and Rationale for the Study

The motivation for this study was the discrepancy noted by this researcher between current educational research included in the chapter two literature review which confirms the potentially positive effects of movement on a young child's thinking processes and the predominantly sedentary teaching practices this researcher observed as a student teacher supervisor. Observations of student teachers in their final semester of teacher training and their mentor teachers revealed a near void of the use of movement in teaching, much less movement meaningfully incorporated for academic purposes. Physically active learning has been noted by multiple researchers and theorists to change the way a child thinks about the lesson at hand; themselves as learners, thinkers and communicators; and how a child regards learning as being relevant or irrelevant to the practicalities of everyday life. A high percentage of student teachers, mentor teachers and practitioners observed by this researcher did not include movement as a tool for learning for the young child. In my observations, teachers of all age and experience levels failed to make the connection between the use of meaningful movement and meaningful learning.

One of the most profound struggles in education is understanding and harnessing how transference of learning and knowledge takes place in the educational environment for each individual student. I use "transference" as a term to describe knowledge moving from one entity (person-to-person, book-to-person, action-to-person, etc....) to another. In relationship to such transference, Confucius once noted, "I hear and I forget. I see and I remember. I do and I

understand.” To “understand,” according to the Merriam-Webster dictionary is: To grasp the meaning of (Merriam-Webster, 2010). Whatever else our educational goals may be – is not the ultimate goal of any dedicated educator aiding a student to gain a meaningful grasp of the lesson at hand?

According to Confucius, “ to understand,” to “grasp the meaning of,” requires action, requires movement. Without movement, Confucius says, we merely “hear and...forget.” Confucius brings to our attention the fact that although we may acquire most of our knowledge base through the senses of sight and hearing, if we do not combine these experiences with the more active modes of learning – that is, speaking and doing, we forget much of what we see and hear.

Goals of Study

The goals of this study were two-fold: first, to create a literature review that includes: (1) a philosophical perspective, (2) a historical perspective, (3) recent educational and child development research relevant to movement and its effect on learning and (4) Rudolf Steiner’s theoretical view related to the significance of movement in the education of the young child. second, to create and implement a study to discern the beliefs, intentions, and practices of Waldorf Early Childhood teachers regarding their use of movement in teaching, and to what degree their beliefs and intentions are actualized in their teaching curriculum and daily practice. Given this researcher’s experience as a student teacher supervisor – observing the predominance of sedentary teaching styles practiced by both mentor teachers and their mentorees – it is this researcher’s intention to explore Waldorf educational teaching and learning practices (based on Rudolf

Steiner's educational theories), as an example of how Early Childhood educators may integrate meaningful movement to enhance and deepen learning for the young child.

Studies cited in this chapter two indicate that physical movement is a boon to a young child's thinking and learning processes; however, in my observations of Early Childhood teachers working in public schools in the Phoenix metropolitan area, all but two Early Childhood teachers (out of thirty-seven) failed to incorporate physical movement in their teaching from a pedagogical standpoint. The disconnect between what educational researchers know about a young child's learning process and the educational practices of Early Childhood practitioners serves as a foundation for this study. This researcher proposes that methodological examples of movement-rich Early Childhood programs are as significant to changing predominantly sedentary teaching practices, as is the research that confirms or indicates movement as a significant vehicle for learning. Providing such an example is the rationale for this study.

Self-awareness is the key to change. As a student teacher supervisor and a veteran Early Childhood teacher who has witnessed a predominance of sedentary teaching styles in the contemporary classroom, I offer this study to shed needed light on the critical connection between movement and learning in Early Childhood curriculum design and implementation. Ultimately, my motivation in conducting this study was to enhance the quality of the learning experience for the Early Childhood student and reciprocally, for those who teach them.

DEFINITION OF KEY TERMS

Terms which may be unfamiliar to the reader are defined for the purposes of this study as follows:

Eurythmy - A system of harmonious body movement to the rhythm of (music and) spoken words (Merriam-Webster, 2010).

Retained Reflexes - Reflexes in the womb and in the early months of life, retained beyond the normal age of integration that disturb behavior, learning, posture, perception, hormonal balance, gross or fine motor control, and more (Applied Kinesiology Center of Los Angeles, 2005).

Steiner Education - See definition for Waldorf Education.

Transference (of knowledge) - knowledge moving from one entity to another (e.g. person-to-person, book-to-person, action-to-person, etc.).

Waldorf (Education) - An educational approach founded by Austrian philosopher and educationalist, Rudolf Steiner, in 1918 that utilizes an arts-based curriculum which integrates artistic and academic work; emphasizes the physical, emotional-social, intellectual and soulful development of the child as a whole human being; and is rooted in Steiner's in-depth philosophy of human development called Anthroposophy (Darian, 2007).

Organization of Dissertation

Chapters two through five of this dissertation include:

- Chapter two is a literature review looks at the significance and effects of movement on learning from a philosophical, historical and scientific perspective

- Chapter three communicates the methodology and design of the study
- Chapter four includes the findings that the study revealed
- Chapter five reveals the conclusions and implications of the study

LITERATURE REVIEW

The following literature review covers four perspectives that illumine the relationship between movement and a young child's educational experience. They are: (1) a philosophical review of the connection between movement and thinking, (2) a historical review of significant influences in educational theory and practice related to the use of movement in the Early Childhood classroom, (3) a review of studies related to how movement impacts thinking in the human being, how it may influence a variety of factors affecting the learning experience for the young child, and how movement effects academic performance for the child in the kindergarten and early grades, and (4) Rudolf Steiner's theoretical views related to the significance of movement in the education of the young child.

The Alpha and Omega of Thinking: A Philosophical Perspective

The evolution of thinking.

Learning has taken place through movement since humanity's earliest experiences. As Gyorgy Kepes asserts:

The first impetus of thought when early man (sic) began to improve sticks and stones to use as tools and weapons by chipping, cutting or scraping, was brought about by the coordination of eyes and hands working together for the sense of achievement. This act of coordination brought thoughts of connection and disconnection. The movement of a human being directs their achievements and thoughts, and in-turn their thought directs their movement (Kepes, 1956, p. 41).

Kepes gives a vivid image of the early human engaging in a cyclical experience of movement and thought in which movement directs thinking and thinking directs

movement. Charles Sherrington joins Kepes in connecting movement and thought as an essential function of our human development. He states:

It would seem to be the motor act under urge-to-live, which has been the cradle of the mind. The motor act, mechanically integrating the individual, would seem to have started the mind on its road to recognizably (Sherrington, 1951, p. 169).

Sherrington emphasizes that movement has nurtured the human mind since its infancy. Movement is the catalyst of thinking, the *first* thinking. Movement was foundational to the conception of thinking in the mind of humanity as a species. Moreover, it is foundational in the development of thinking for the individual. The young child, not yet adept at language and speech, communicates and navigates thinking through movement. Thus, movement is the alpha of thinking. It is the original conduit of thinking and the key to its evolution.

Movement's influence on the learner.

Movement is inherent in the human being. We are active organisms. Not to move goes against our natural ways of negotiating our place in the world and reflecting on the world. Ernest Becker propounds:

Beyond a given point man (sic) is not helped by more "knowing," but only by living and doing in a partly self-forgetful way. As Goethe put it, we must plunge into experience and then reflect on the meaning of it. All reflection and no plunging drives us mad; all plunging and no reflection, and we are brutes (Becker, 1973, p. 199).

Becker goes so far as to state that life without movement can lead to mental illness. Imagine, then, the price children pay when they sit idle for long stretches of the school day.

Even if a child doesn't go "mad" per se, is it possible that profoundly sedentary schooling experiences may lead to more subtle mental disturbances, such as attention deficit disorder and attention deficit hyperactivity disorder? In 2005, Kristie Koenig and Moya Kinnealey (in a paper presented at the American Occupational Therapy Association meeting) reported findings from a study of one hundred thirty-five children with attention deficit hyperactivity disorder (ADHD) which indicated a 95% improvement rate in reducing restlessness, impulsivity and hyperactivity in children with ADHD after the children experienced sensory intervention therapies. The interventions were tailored to each student and included such techniques as lightly or deeply brushing the skin, moving on a swing, and using an exercise ball (Koenig & Kinnealey, 2005).

Koenig and Kinnealey describe the behavioral changes displayed by children who received the sensory interventions:

We found significant improvement in sensory avoiding behaviors, tactile sensitivity, and visual auditory sensitivity in the group that received treatment . . . The children were more at ease. They could better attend to a lesson in a noisy classroom, or more comfortably participate in family activities . . . The behavior associated with ADHD was significantly reduced following the intervention (Koenig & Kinnealey, 2005).

Koenig and Kinnealey's study is one example of how movement can have an impact on learning in multiple ways. The active nature of movement not only affects a child's thinking but also their perceptions of their physical body and environment, other people and the lesson or activity at hand. Potentially, movement can change both thinking *and* the learner in myriad ways.

In today's debate on the merits and detriments of movement in education, the focal question is whether or not movement improves academic achievement. However, to genuinely assess how a young child's thinking and learning is influenced by the integration or absence of movement, a flurry of questions must be addressed – among them: How does movement influence how a learner thinks about a lesson? How does movement influence a learner's thinking about the learner's own self – as a learner and thinker? How does taking a physically active role in a lesson through movement make the lesson more relevant to the practicalities of a child's life and their engagement in the immediate environment and, eventually, in the larger world?

Movement may not only have an impact on academic achievement outcomes in the short-term; it may also have an impact on the development of thinking skills and abilities, which lead to academic achievements and well-being in the future. In narrowly focused assessments of the affects of movement on learning, profound growth and change in the learner's thinking capacities may not be immediately noticeable or verifiable. So, in addition to academic outcomes that may be assessed in a more standardized fashion, we must also consider how movement affects thinking in ways we are not able to verify scientifically.

Rudolf von Laban, who is considered to be one of the most important figures in the history of dance, connects movement to one's personal growth in thinking. He writes:

Movement thinking (his phrasing for thought through movement) could be considered as a gathering of impressions of happenings in one's own mind for which nomenclature is lacking. This thinking

does not serve orientation in the external world but it perfects men's (sic) orientation in his (sic) inner world in which impulses continually surge and seek an outlet in doing... (Lowndes, 1970, p. 9).

This is relevant to classroom learning because movement may affect how a child thinks about a lesson. Movement gives a child a vocabulary beyond words that allows the child to assimilate, synthesize and communicate the lesson in ways that are limited by verbal language. This is particularly pertinent for children whose oral language abilities are deficient. Through movement, a child becomes a participant in the lesson, not just an observer. Movement creates a connection between the inner world of thinking and the outer world of doing.

Beyond helping a child to think about, grasp and communicate the lesson at hand, movement can also shape children's thinking about themselves. Lowndes et al. (1970) proposed a connection between a child's physical action and their self-awareness and self-esteem as a thinker. To paraphrase Lowndes: if a child is to feel secure within the child's own self, the child needs complete awareness of their physical and emotional ranges together – to know they can control and discipline these, so to act sensibly and speak with sensibility of thought. Without a sense of control of their actions in connection to their thinking, a child may feel unstable in novel situations (Lowndes, 1970). One of the implications of Lowndes insight is that movement not only affects present learning in which a child is engaged, but also affects a child's future learning. Movement becomes the vehicle for a child to develop a confident view of themselves as a thinker and communicator.

Additionally, movement incorporated into the learning process can affect the way a child thinks about their environment and the larger world. Movement may impact how the lesson a child is learning connects to everyday life in which the child lives and moves in the world. Longtime Waldorf educator, Eric Fairman, notes:

If teaching is to be effective and meaningful, then teachers have a responsibility to ensure that students not only experience an awakening of their feeling life in presentations, but that they also have a ‘living’ experience of the subject and are able to perceive its relevance to ‘real’ life. This can only be fully realized when students are actively involved with their will in the learning process (Fairman, 2006, p. 6) .

Fairman is a vocal proponent for physically active learning within Waldorf schools, most of which already incorporate myriad hands-on learning methods as an essential aspect of the Waldorf curriculum. Rudolf Steiner – the founder of the Waldorf education movement – believed that physically active learning ought to be a primary foundation for pursuing knowledge rather than a peripheral addition to the learning process. Karl Ege paraphrases Steiner:

With regard to the accelerating influence of scientific technology and academic sterility upon education, Rudolf Steiner pointed out, shortly before his death (in 1925), that for the future of the new school movement it would be of great importance to turn the rudder 180 degrees in the direction of the artistic and the practical. With this in mind, we realize how – in contrast to the emphasis upon the academic – the artistic and handcraft activities are far too often carried on merely as supportive and enlivening factors. It could, however, be the other way around that they would be the starting point, and that out of such creative, self-active and practical work the elements of knowledge and scientific understanding would be developed (Ege, 1979, p. 46).

A child actively engaged in even the smallest aspect of a lesson uses their will forces to ignite the impulses of the brain. Thus, the physically active child may well retain a greater understanding and detail of the subject than if they sat idly reading, listening to or observing the entire lesson. Furthermore, physically active learning creates a bridge for the child between learning and doing.

Margaret H'Doubler asserts that movement is the fuel of our cultural evolution as thinkers. She notes that movement has been used throughout history to “discover, to conquer, and to destroy.” She states:

All that man (sic) has accomplished has been executed by bodily movement. The very fact that man (sic) is endowed with effective stepping movements and can go places has been and always will be influential in the cultural advancement of the human mind as well as assurance of man's (sic) survival (H'Doubler, 1957, p. xvii).

H'Doubler recognizes movement's role in all human accomplishment. One may conclude from H'Doubler's assertion that if the educator takes movement out of learning and promotes the child to become a predominantly sedentary being, the child is made impotent in their ability to take learning into the larger world.

Coupling H'Doubler's insight related to movement as integral to all human accomplishment and cultural advancement with Sharrington's understanding of movement as “the cradle of the mind,” we see how movement may be deemed as the alpha and omega of thinking. Without movement, there is neither original thought nor advancement in the evolution of thought and its application in human culture.

Movement Learning in Educational Practice: A Historical Perspective

Ancient Greece to the mid-nineteenth century.

Movement was considered to be critical to learning all the way back to the ancient times of Greece. Young boys of Ancient Greece endured a plethora of movement activities in their training and educational studies. Mixed into the daily lessons on physical fitness were lessons on simple mathematics, geometry and what we might refer to as role-playing scenarios. To the boys of Ancient Greece, the skills of physical labor and knowledge were the impetus for intellectual growth. Movement was part and parcel to learning. In his book *The Development of Play*, David Cohn notes that theorists who overlook the fact that adults and children in Ancient Greece and Rome played the same games, have often ignored the historical origins of play and movement (Cohn, 1987).

In Western society, until the mid-eighteenth century, the child was considered to be a miniature adult. In 1759, with the introduction of Rousseau's theory of the "noble savage" in his book, *Emile*, centuries-old views of the young child began to change. Rousseau put forth the view that adults should not expect the child to relate to the world as an adult does but as an innocent who must learn about the world over time. Rousseau's view of the young child included the notion of "moving freely." Rousseau states: "Let him (sic) learn to perform every exercise which encourages ability of the body...children will always do anything that keeps them moving freely" (Cohn, 1987).

Fredrich Shiller, a German philosopher and contemporary of Rousseau, stated that through play and movement "reality loses its seriousness." In this

regard, seriousness refers to adult responsibilities being weighed upon a child at too young an age. Cohn paraphrases Schiller: “Play did not lead to chaos and self-indulgence. It was a means for human beings to express their desire for beauty, for enjoyment, for pleasure and through ‘having’ those experiences, to become more whole” (Cohn, 1987).

The German educationalist, Froebel, who is considered to be the “father of the Kindergarten,” was a follower of Rousseau. Froebel coined the word, “Kindergarten” in 1840 and advocated for the incorporation of play in the young child’s learning environment. Although Froebel embraced Rousseau’s basic beliefs that play is beneficial to the young child’s development, he found fault in Rousseau’s far too open-ended ways of incorporating playful movement into the child’s daily life and academics. Froebel saw movement as a means of purposefully educating the child through structured activities rather than simply giving the child an unstructured time for “free play” (Brosterman, 1997).

Froebel advocated a three-part approach to the holistic education of the young child, including games and dances, gardening, and twenty “gifts” for sedentary creative play. Ten of the twenty “gifts” include: (1) “the ball” (a yarn ball with a handle attached); (2) “the children’s delight” – a set of a cube, cylinder and sphere; (3) a two-inch cube (from gift two) and eight one-inch cubes; (4) the two-inch cube with 8 oblong blocks that measure two inches by one inch by one-half inch; (5) a three-inch cube with twenty-one one-inch cubes, 6 half cubes and 12 quarter cubes; (6) a three-inch cube with eighteen oblong blocks, twelve flat square blocks, and six narrow columns; (7) “parquetry tablets” – a set of one

hundred seventy-two heavy paperboard pieces that includes a number of each of the following – square, equilateral triangle, right-angled isosceles triangle, right-angled scalene triangle, obtuse isosceles triangle, circle, and half circle; (8) “sticks and rings” – including a number of one - , two - , three - , four - , and five-inch sticks, a number of one - , one-and-a-half - , and two-inch diameter rings, and a number of one - , one-and-a-half - , and two-inch diameter half rings; (9) “the points” – a collection of small objects in a variety of colors to represent the abstraction of a point; and (10) “the framework gift” – that includes architectural pieces of points and lines to create three-dimensional patterns and frameworks (Brosterman, 1997).

In addition to the twenty “gifts,” Froebel instructed that each kindergartner participate in games and dances for healthy activity. Froebel also advocated for each child to work in the garden to plant, nurture and harvest (Brosterman, 1997). Froebel’s approach incorporated both sedentary and active learning in intentional ways. It is significant, however, to note that Froebel’s sedentary learning practices were physically active in the sense of manipulating the “gifts” by hand.

Movement learning: Victorian views.

Is movement a form of learning? Despite Froebel’s philosophy and methods spreading in the United States in the mid-nineteenth century, this question continued to haunt the Victorian philosophers. The notion that children learn through playful movement was debated among educationalists and psychologists of the time. Karl Goos, a follower of Charles Darwin, believed all creatures draw

on playful movements as a means of gaining or enhancing both physical and mental skills. He points out how infants use movement instinctively:

The child at first waves his (sic) hands aimlessly, and when his fingers chance to strike a suitable object they clutch at it instinctively. From a purely biological point of view this is practice of an instinct and play has already begun. Psychologically, on the contrary, it is safer to defer calling the movements playful until through repetition, they acquire the character of conscious processes accompanied by attention and enjoyment (Groos, 1898, p. 78)

However, behaviorists and progressives alike saw Goos' view as benign - not taking a stand far enough in either direction. This may have been due to the fact that Victorians were far less interested in exploring how the child might discover (on their own) the benefits of movement to be useful to their self-education, and far more interested in controlling the child's world. Brian Sutton-Smith chastises Victorian theorists by laying out what he believed to be their underlying intentions: "Control the child's muscles and you could control his (sic) mind and ethics" (Sutton-Smith, 1975).

Into the twentieth century.

By the early 1900's, another of Rousseau's proponents came onto the education scene. In 1907, Maria Montessori established the first school based upon her educational philosophy and methods in Rome. Montessori believed in a strong connection between movement and learning. Her teaching methods incorporated equipment in the classroom to motivate children to move and explore the classroom environment. The manipulatable equipment was seen by Montessori as a means to create needed structure and provide self-directive

correction that involved keeping the hands in constant motion. Montessori also incorporated real life tasks, such as pouring water, washing classroom furniture, and pouring rice into containers as a means of helping a child to develop coordination. Such activities are based on Montessori's belief that real-life tasks carry greater meaning, motivation and interest for the young child (Guyer, 1989), (Wood, 2000)

Montessori differentiated between random movements without purpose and movements involving mental activity and concentration. With the appropriate learning environment provided, Montessori believed that a child is naturally motivated and fully capable to direct his or her own learning (Guyer, 1989) & (Wood, 2000). Montessori's approach and curriculum were additionally based upon virtue-building intentions which include prescribed ritual activities intended to foster concentration, coordination, order, independence and respect (Cassentino, 2005). Thus, Montessori's methods of incorporating movement in the classroom were intended to both engage mental activity and inspire moral behavior.

John Dewey was a contemporary of Montessori who supported the core ideas promoted by Frederick Froebel. Dewey established his Chicago Laboratory School in 1896. Dewey's book, *The School and Society*, outlined his views on the role of education in society. In the book, Dewey illustrates how education and society profoundly affect and form one another. Dewey was a strong advocate of movement education, not simply movement as "physical education" apart from

the daily “classroom” experience, but movement integrated into the whole spectrum of learning.

Dewey’s diagram of the ideal learning space included no formal gymnasium. It included a “shop” for woodwork and mechanics, a “textiles industry” room for sewing and crafting, a “dining room and kitchen” to connect practical life rhythms with geography, science, mathematics, etc., and a “library.” Outside the physical dwelling of the school building, Dewey’s sketch emphasized the connection between the business world and the “shop” and “textile” endeavors. He stressed the connections between home life and the “kitchen” and “textile” activities, and the connection between gardening, farming industries, and parks and lands with the activities taking place in the “kitchen.” Dewey pointedly describes the justification for creating a learning environment that promotes learning wholistically (sic) through mind and body:

The child comes to the traditional school with a healthy body and more or less unwilling mind, though, in fact, he (sic) does not bring both his mind and body with him; he has to leave his mind behind, because there is no way to use it in the school. If he (sic) had a purely abstract mind, he could bring it to school with him, but his is a concrete one, interested in concrete things, and unless these things get over into school life, he cannot take his mind with him. What we want is to have a child come to school with a whole mind and a whole body, and leave school with a fuller mind and even healthier body. In speaking of the body suggests that, while there is no gymnasium in these diagrams, the active life carried on in its four corners brings with it constant physical exercise, while our gymnasium proper will deal with the particular weaknesses of children and their correction, and will attempt more consciously to build up the thoroughly sound body as the abode of the sound mind (Dewey, 1900, p. 93).

John Dewey has been called “the father of experiential learning” (Nell, 2005). Upon Dewey’s death the Washington Post described Dewey’s influence on education, thus:

When at the turn of the century he began to publish his thoughts on education, he found little support among school administrators. But here and there experimental schools demonstrated the validity of his theories. Dewey himself was the severest critic of the excesses of the “progressives.” By 1930 his theories, supported by a number of other innovators, were generally accepted by educators who were sensitive to the changing American (sic) cultural scene (Koch, 1952).

Another contemporary of John Dewey was the Austrian philosopher, Rudolf Steiner. Steiner’s core views on the role of movement in education were similar to Dewey’s. Steiner abhorred sedentary teaching practices that caused a child to be passive and denied a child the freedom to move and engage their will forces in the process of learning. Steiner founded the first school based upon his educational philosophy in 1919 in Stuttgart, Germany. The school was created for the children of factory workers at the Waldorf-Astoria cigarette factory. Thus, the educational approach of Steiner gleaned its name – Waldorf Education.

In the Early Childhood curriculum, Steiner advocated for the child’s complete immersion in the movements and rhythms of practical life. The Waldorf Preschool/Kindergarten centers on practical life tasks, painting, drawing, modeling, gardening, outdoor and free play, and incorporating movement into singing and speech. In the early grades, movement is incorporated throughout the curriculum in all subject areas – mathematics, social studies, language arts, foreign languages, music, etc.

Despite the efforts of educationalists such as Froebel, Montessori, Dewey and Steiner, in reference to mainstream education, more culturally pressing concerns encountered in the 1920's sidetracked the concept of young children learning through movement. The value of playful movement in a child's life became an educational concern as a method to direct and mold social and moral qualities that suited the theorists. Henry Curtis thought it was education's moral obligation to take children from the streets where they were engaged in immoral play to prepare them for what "society" really wanted of them – children who could be molded physically and mentally to society's greater ethical standards. He states: "It is not play but the idleness of the street that is morally dangerous" (Curtis, 1917, p. 61). Curtis explains in his book *Education through Play*, that children need education to teach them social and moral standards before the unruly street people, gangs, and drunks teach them forms of play that are "ungodly."

School playgrounds were a solution to answering the social worries expressed by theorists such as Henry Curtis who believed that our children needed protection from the "morally dangerous" individuals of the streets (Curtis, 1917). So, masses of children were quickly huddled into the newly developed public schoolyard playgrounds built by the Federal and State governments.

Movement: does it matter?

In the mid to late 1950's a profound shift occurred in our cultural views of education in the United States that greatly influenced the rise of sedentary teaching practices. Edward Zigler identifies the pinnacle event, which shifted our

educational system as a whole toward “no nonsense” sedentary instruction. He states:

Specifically, American attitudes concerning education were seriously jolted by the launching of Sputnik. This feat was interpreted by many as embarrassing proof that Soviet education was more rigorous and effective than American’s academic fare. After all, the Russians were training their children in mathematics, science, and engineering, while Americans were training theirs in finger painting. A return to and glorification of the three R’s became the nation’s rallying cry. Concern with the overall adjustment of the child thus gave way to an intense concentration on cognitive development (Zigler, 1984, p. ix).

The scare of being “left behind” in the academic race gave rise to support of educationists such as Joseph McVicker Hunt, who minimized the influence of environmental factors (including the freedom and ability for a child to move) on a child’s learning process. McVicker Hunt argued that shifting the classroom environment toward one more conducive to providing academic content for the young child (preschool and kindergarten) could raise a child’s IQ (Josef-Bishop, Singer, & Zigler, 2004). A wave of interest and support for starting children earlier into academics took hold of cultural sentiments through mainstream media, parenting books and educational practices.

In 1964, fuel was added to the fire for promoting sedentary cognitive thinking processes over experiential learning. Benjamin Bloom published his book *Stability and Change in Human Characteristics*. Support for the hierarchical “Bloom’s Taxonomy,” in which mastery of one level of learning must be achieved prior to moving upward to the next level, caught hold (Bloom, 1964). Movement, interaction, and experiential learning were no longer considered

important in advancing a child's thinking or providing the foundation for academic achievements. Bloom claimed that a child at age four had already "used up" half of their cognitive development. This perspective precipitated a belief that the young child must be inundated with sedentary cognitive forms of learning in order to fill their young, growing brains before it was too late.

The effects of Bloom's theory and its societal acceptance spilled over into the federally funded Head Start program. Head Start was founded on the idea of helping infants, toddlers and young children of impoverished means by providing resources to enhance: "...physical health, nutrition, social and emotional development, education, services for children's families, and community and parental involvement" (Josef-Bishop, Singer, & Zigler, 2004). The original core intention of the Head Start program was to provide resources to meet "all" the young child's needs, not simply to ensure their academic improvement. Many Head Start programs originally included kitchen play and dress up as significant elements of the child's learning experience. However, the Head Start program was drawn into the Bloom-inspired rush to promote a child's academic abilities and knowledge as the key for a child's success in school, work and life as a human being.

The justification for Head Start joining the rush was short lived. The studies of children's IQ from Head Start programs showed gains in the early weeks of cognitive learning intervention, but studies from Westinghouse in 1969 reported that these same children failed to sustain their gains as they moved toward elementary school (Josef-Bishop, Singer, & Zigler, 2004). Thus, the door opened

for more conversation concerning whether or not sedentary cognitive learning advances the young child academically.

The Sputnik crisis gave rise to two contrasting views concerning which teaching style is most effective with young learners – sedentary or active learning. The importance of including movement in a young child's learning process was an idea that had been championed by Jean Piaget since the late 1920's – over three decades prior to Sputnik's launching. The Sputnik scare brought Piaget to the United States in an effort to reignite interest in his cognitive theory of child development.

Piaget's cognitive theory already had a footing in the United States.

However, as David Elkind notes:

At that time (late 1950's) there were many direct applications of Piaget's work to education, without a real understanding of his revolutionary conception of the child. Such applications, however well intentioned, failed and failed badly. The reason is that, if Piaget's procedures and findings are used without regard to his theory of knowledge, then these procedures and findings are transformed in keeping with the educator's prior perception of the child (Elkind, 1977, p. vi).

The publication of Piaget's book, *The Growth of Logical Thinking from Childhood to Adolescence*, published in the English language in 1958, offered theorists and practitioners in the United States a comparison of the thought processes of the younger child with those of the adolescent. Elizabeth Hall quotes Jean Piaget as saying:

If you spend one year studying something verbally that requires two years of active study, then you have actually lost a year. If you were willing to lose a bit more time and let children be active,

let them use trial and error on different things, then the time we seem to have lost we may have actually gained (Hall, 1970, p. 25).

Piaget's statement stands in opposition to the methods suggested by Joseph McVicker Hunt and Benjamin Bloom. Piaget's cognitive theory affirms the need for more time in creating, maintaining and advancing activity-focused learning for the young child. This is antithetical to both McVicker's and Bloom's views, which supported young children being exposed to abstract thinking at an early age – thinking devoid of movement – as a prime way of advancing their academic abilities.

At the International Center of Genetic Epistemology in Geneva, Switzerland, Piaget gave a lecture on development and learning which explains his view of “active study:”

...to understand the development of knowledge, we must start with an idea...the idea of an operation. Knowledge is not a copy of reality. To know an object, to know an event is not simply to look at it and make a mental copy, or image, of it. To know an object is to act on it. To know is to modify, to transform the object, and to understand the process of this transformation, and as a consequence to understand the way the object is constructed (Piaget, 1964, p. 176).

Piaget goes on to point out that, “an operation is thus the essence of knowledge; it is the interiorized action which modifies the object of knowledge.” This “essence of knowledge” is realized through the “ordering, or putting things in a series.” An operation – a series of actions conducted in an orderly manner (or pattern) – modifies one's knowledge and relationship to the object, which allows the learner to understand and retain a newly transformed knowledge of the object (Piaget, 1964).

Piaget states that an operation is “a reversible action” and “...never isolated. It is always linked to other operations, and as a result it is always a part of the total structure.” In Piaget’s cognitive theory of stages through which young children pass (sensory-motor, pre-operational and concrete operational), he outlines the process by which a child acquires increasing knowledge of operations during the pre-operational stage (ages two to six) and the concrete-operational stage (six to twelve). George E. Forman and David S. Kushner describe the child’s process of acquiring knowledge according to Piaget’s concrete-operational stage. They state:

The word concrete refers to the fact that the child is still dealing with concrete objects; when he deals with change, he (sic) deals with changing objects, not with change in the abstract. It should be clear that here the word concrete does not refer to concepts – more specifically, concrete versus abstract concepts. The concrete-operational child is quite capable of dealing with abstract concepts, although he (sic) deals with them in a concrete manner (Forman & Kushner, 1977, p. 76).

Barry J. Wadsworth succinctly sums up this acquisition of the knowledge of concrete-operations for the young child:

The child receives valid information about objects and events when he (sic) acts on them (touches, tastes, looks at, listens to, and “thinks” about them). The child assimilates these actions and constructs knowledge in the process. Spoken or written symbols cannot replace the child’s actions in the construction of knowledge (Wadsworth, 1978, p. 102).

Wadsworth also notes that the child needs to be spontaneous in their actions, and surmises: “motivation and initiation must flow from the child” (Wadsworth, 1978). Forman and Kushner add to Wadsworth’s thoughts by stating, “By associating action with object, the child acquires a wide range of physical

knowledge.” An example of such physical knowledge is that of a four-year-old child pouring water into different glasses (shape, height, and width) and concluding that each glass can hold the same amount of water though they are “shaped” differently (Forman & Kushner, 1977). In this example, doing the actual pouring is the catalyst for obtaining knowledge for the child.

Although Piaget’s theory of cognitive development became the foremost theory taught to Early Childhood educators for the past five decades as a foundation for understanding a young child’s process of learning, it has not been widely assimilated into institutionally based curriculum or practice. The Sputnik scare caused fear to muddle reasoning. This gave rise to the widely accepted view that a young child’s learning needs hinge on gaining abstract knowledge, paving the way for sedentary academic learning to become the accepted standard.

Bringing movement learning up to date.

Presently (and for the past four decades), the educational movement debate continues to sea-saw back and forth between advocates who uphold the benefits of sedentary styles of learning and those who believe that more active learning styles are most effective. With a growing collection of studies focused on movement and learning, we now have mounting evidence that sedentary learning styles are most often in opposition to a child’s learning process and their academic achievement. However, as a culture, we appear to be turning a deaf ear to the results of the scientific methods we venerate in our educational pursuits. The following section illumines the most recent studies involving movement in learning and movement’s effect on thinking.

Making A Move to Grasp the Evidence: A Scientific Perspective

The following review of scientific studies conducted in relationship to the effect of movement on thinking and learning will differentiate the types of movement utilized in the studies: (1) movement (activity, exercise) engaged in by a student in after-school hours or as a break from cognitive learning and processing in the course of a school day, (2) movement that is incorporated into sedentary learning practices, and (3) movement incorporated into non-sedentary learning practices that engages most or all of the physical body simultaneously with cognitive learning.

The effects of physical activity and fitness on thinking and learning.

The scientific literature is currently experiencing an increase in studies conducted to evaluate the effects of extra-curricular activity and fitness on thinking and learning. This increased interest may be due to a move by many school boards and administrators to cut funding for Physical Education classes (Sibley & Etnier, 2003).

According to a literature review prepared by Stewart G. Trost in 2007, fourteen studies published between 1967 and 2006 (involving 58,000 children and adolescents) evaluated the connection between overall physical activity and academic performance. Eleven of these studies found a positive correlation between physical activity and academic performance, two studies found no adverse effect, and one study showed a trivial negative effect between increased physical activity and standardized test scores. Three additional smaller studies conducted between 1970 and 2006 involving one or two schools showed a

positive correlation between physical activity and academic performance (Troost, 2007) (Census Bureau, 2009).

A review of scientific literature conducted by Tomporowski, Davis, Miller and Naglieri (in 2007) focused on the link between chronic exercise programs (those designed to improve physiological functioning over time) and the intelligence, cognition and academic achievements of children. The studies were evaluated based upon type of exercise and particular cognitive or performance related outcomes (Tomporowski, Davis, Miller, & Maglieri, 2008).

Of the twelve prospective and experimental studies cited by Tomporowski et al., three were designed to evaluate the effect of exercise on intelligence. According to the review of the studies, exercise gleaned from enhanced PE classes at school showed no effect on intelligence in one study, while balance and coordination activities conducted in another study showed an inconclusive effect, and strength training in two separate studies showed a positive effect on intelligence. However, Tomporowski et al., proposed that the results of the above studies were skewed due to the use of I.Q. tests to assess results. The reviewers asserted that I.Q. tests assess global measures of functioning, and do not isolate particular aspects of cognitive functioning affected by physical movement (Tomporowski, Davis, Miller, & Maglieri, 2008).

Four of the prospective and experimental studies reviewed by Tomporowski et al. were conducted to evaluate the link between chronic exercise and various aspects of cognition. The types of movement utilized in the four studies were aerobic running or aerobic exercise. The studies showed no effect on perceptual-

motor ability (one study), improved creative thinking (two studies) and improved executive functions – related to planning and selecting strategies that organize goal-directed actions (one study), an inconclusive connection on design matching (one study), and no effect on non-executive cognitive functions (which involve basic information processing; e.g., encoding, stimulus evaluation, response selection, and response execution – one study). According to the reviewers, “the results of the cross-sectional studies indicate that children who are physically fit perform cognitive tasks more rapidly and display patterns of neurophysiological activity indicative of greater mobilization of brain resources than do less fit children” (Tomprowski, Davis, Miller, & Maglieri, 2008).

The majority of studies focusing on the relationship between movement and thinking in children have focused on the impact of physical activity on academic achievement (Tomprowski, Davis, Miller, & Maglieri, 2008). Five of the prospective and experimental studies reviewed by Tomporowski et al. were conducted to evaluate the connection between chronic exercise and academic achievement. Four studies involved enhanced school PE classes and one involved a regimen of aerobic exercise for the duration of one school year. One study showed an improvement in academic achievement, two showed inconclusive results, and two showed no effect. Four correlative studies were also reviewed by Tompolowski et al. that measured the relationship between children’s physical fitness and academic achievement. Of the four studies, three showed a positive correlation between improved physical fitness and academic achievement, while one study (that utilized a self-report assessment) showed no correlation

(Tomprowski et al., 2007). In relation to the studies focusing on the impact of physical fitness on academic achievement, the reviewers caution that only two of the studies evaluated used random assignment of children to experimental and control conditions, and that study measurements involving teacher grading may be biased according to teacher expectations (Tomprowski, Davis, Miller, & Maglieri, 2008).

Sibley and Etnier conducted a meta-analysis of studies focusing on the connection between activity and cognition in children in 2003. Of fifty-nine relevant studies evaluated, few of the studies were well designed. Only nine of the fifty-nine studies were published in a peer-reviewed journal; however, an additional seven studies were true-experimental studies. Among the total of sixteen studies, two studies involved an acute physical activity (fifteen minutes of stretching and walking in one study; twenty minutes on a treadmill in the other), and fourteen studies involved chronic physical activities lasting from three weeks to two years. Each of the sixteen studies utilized one of the following types of activities: isometric strength training; PE classes; gross motor activities; running; circuit training; or physical games. The meta-analysis yielded a significant overall effect of 0.32, which indicates that children experience a positive correlation between physical activity and cognition.

The above scientific literature reviews indicate a strong correlation between physical activity and fitness and academic achievement, a positive correlation between physical activity/fitness and cognition – particularly in the areas of creative thinking and improved executive functions, and no conclusive correlation

between physical fitness and intelligence. No body of studies reviewed indicated a negative effect between physical activity and fitness and intelligence, cognition or academic achievement.

In addition to the impact of physical fitness and physical activity breaks on cognition and academic achievement, physical activity breaks may have an affect on student behavior in the classroom. A 2001 study conducted by Jarrett et al., analyzed the effects of recess on forty-three fourth grade children in a southern urban school district with a policy against recess. For the study, the district granted permission for two grade four classes to have recess once a week. Behavior was compared on recess and non-recess days. Sixty percent of the children, including five children with attention deficit disorder and a balance of boys and girls benefited considerably. They worked more or fidgeted less (or both) on recess days (Jarrett, Maxwell, Dickerson, Hoge, Davies, & Yetley, 1998)

Mahar et al (2006) published a study that evaluated the effects of a classroom-based physical activity program on children's in-school physical activity levels and on-task behavior. Two hundred forty-three third and fourth grade students were observed. The results showed a positive correlation between the physical activity programs which included brief periods of physical movement led by the classroom teacher and an increase in physical activity and on-task behavior during academic instruction.

As the effects of sedentary teaching and learning practices are assessed, more attention and study on the effects of sedentary learning for children may be required. In 2008, Hamilton et al. published a comprehensive review of studies

focusing on the effects of inactivity and sedentary behavior on adults. Results of the studies reflect the potential causal role of sedentary behaviors in the development of cardiovascular and metabolic diseases – independent of whether individuals meet physical activity guidelines (Hamilton, Healy, Dunstan, Zederic, & Owen, 2008). Such findings are justification to prompt pro-active teaching and learning practices that not only preserve physical activity as an important catalyst for improved thinking, learning and academic achievement, but also promote learning methods that decrease the amount of time young children sit idle.

Most children in our 21st century Western culture sit for the majority of their day – to eat, ride in the car, watch television or movies, read, play sedentary games and yes, learn at school. A study by Brown et al. published in 2009 investigated the physical activity of four hundred seventy-six preschoolers (three- to five-year-olds) and found that throughout the preschool day, children were engaged in sedentary activity 89% of the time, light activity 8% of the time, and moderate to vigorous activity 3% of the time.

In regard to sedentary learning activities at school, it appears that the most conducive may be that of sleep, according to Mednick, Nakayama and Stickgold. The researchers report their findings that nap-dependent learning closely resembles that of previously reported results of a good eight hours of nighttime sleep. Performance over a twenty-four hour period showed as much learning as is normally seen after twice that length of time (Mednick, Nakayama, & Stickgold, 2003).

Given the current trends in human behavior and the direction of current research, questions arise not only in relation to the impact of physical activity, but also the impact of sedentary behavior and inactivity on learning for the young child. The following section sheds light on possible consequences of movement on the predominantly sedentary learner.

The effects of movement on sedentary learning practices.

Few studies have been conducted that give attention to the effects of movement on cognitive processing and learning in children when movement is experienced simultaneously with cognitive processing. However, Lleras & Thomas (2009) report findings in a study that revealed how higher order thinking in adults can be affected by how a person moves their body. In the study, subjects were given a classic insight problem to solve. In interludes between active problem solving, one group was asked to swing their arms in a manner that (unbeknownst to the participants) suggested the problems solution, while the other group was asked to stretch their arms to the side. Despite the fact that the participants did not consciously connect their movements with the problem's solution, those who swung their arms were more likely to solve the problem. These findings show that actions influence thought, and that we can implicitly guide people toward insight by directing their actions (Thomas & Lleras, 2009).

Vinter and Chartrel (2010) studied a group of five-year-olds to determine if different types of training in handwriting skills (visual, motor, or visual-motor) were more or less effective than conventional approaches to handwriting. The results of the study indicate that children learn best by seeing and doing in

combination (Vinter & Chartrel, 2010). Additionally, a striking result in a study conducted by Cook et al. in 2007 indicates that requiring children to gesture while they are learning a new mathematics concept helps them to retain the knowledge learned. The researchers suggest that we may improve children's learning simply by encouraging them to move their hands while learning (Cook, Mitchell, & Goldin-Meadow, 2008). Given such research, it is difficult to continue to justify sacrificing a young child's physical preferences and tendencies for movement in the name of academic achievement.

Movement as a mode of learning and a way of life.

Eric Jensen puts it simply in *Arts with the Brain in Mind*: "When we use our body for learning we are using more of our brain than what we would use for seat work" (Jensen, 2001). The area of the brain that controls movement is referred to as "the motor strip." It is located in the Central Sulcus that runs from ear to ear; thus, when a person physically engages both sides of the body through movement, both the right and left hemispheres are engaged.

Unfortunately, few studies have been conducted to assess the effectiveness of movement learning on the young child in relationship to cognitive processing. Shauna Tominey conducted a study to determine if movement games improve a pre-kindergartner's self-regulating behavior – which is a strong predictor of academic success. The movement games predicted significant gains in self-regulating behavior, and also predicted significant reading gains among the sixty-five children included in the study (Tominey, 2010).

Mahoney (2008) conducted a small study related to children's responses to learning through movement in the classroom. Though the five elementary school teachers who participated in the study had varying levels of ability and comfort with incorporating movement into their classroom teaching, all ten kindergarten through grade five school children expressed engagement and enthusiasm in relation to movement learning. A fifth grade boy, Jack, remarked: "It is easier to learn with movement instead of paper. With movement, your body does it and it's telling your brain, wow, this is 'more fun' than just seat work" (Mahoney, 2009)

Further study of the effects of whole movement learning on the young child is needed. Meanwhile, classroom teachers may need to observe the impact of movement learning on their students for themselves and watch and ask for feedback from the children. It is the dearth of scientific studies on whole movement learning that inspired this researcher to carry out a case study to observe the use of movement in a Waldorf education Early Childhood program. Of the more formalized educational philosophies and methodologies, Waldorf education provides a comprehensive and integrated approach to the use of movement learning.

Although the founder of Waldorf education, Rudolf Steiner, was not privy to the scientific studies concerning movement and thinking that we have available to us as educators and researchers today, Steiner's intuitions concerning the connection between movement and thinking were forward-thinking for his time. For the purposes of laying a theoretical foundation for this micro-ethnographic case study concerning Waldorf educators' implementation of movement in a

Waldorf early childhood program, the following section and Appendix A summarize the educational perspective of Rudolf Steiner in reference to the use of meaningful movement during the first fourteen years of life.

Steiner viewed the physical act of walking for the infant (around age one) as the motor ability that enables the infant to come into contact with the outer world. Such contact, in Steiner's view, makes it necessary for a child to engage in communication and language with other human beings. According to Steiner, movement and speech are closely aligned, speech "arising from the human being as a whole." While the newborn infant's limbs flail about in response to others' actions, the growing baby uses their limbs – both arms and legs – in an increasingly harmonious fashion that allows the child to develop speech from within the child's physical being. Steiner believed that from the movement of the legs, the rhythmic element of speech is developed, and from the movement of the arms and hands, the thematic aspects of speech arise (Steffen, 1923).

According to Steiner, during the first seven years, the physical body is the chief aspect of the child being developed – head, trunk and limbs. In the first two-and-a-half year period, the child learns to walk, speak and think. During the second two-and-a-half year period (age two-and-a-half to five), the rhythmic system, involving blood circulation and breathing, is developed and brought into balance. During the third two-and-a-half year period (from five to seven-and a half), the metabolic system gives rise to moral reasoning and imagination, which is fostered through physical action and imitation. Steiner believed that through a child's learning mastery of the body – limbs, larynx, imaginative thinking,

breathing, circulation, and metabolic processes – the child gains confidence in its physical organism, learns to navigate its immediate environment and communicate with others. Steiner believed that thinking relies upon the will (doing) in order for thinking to be active.

Steiner stressed how imitation plays a major role in the education of the child in the first seven-years. Steiner said:

Children... do not learn by instruction or admonition, but through imitation. The physical organs shape themselves through the influence of the physical environment... If before their seventh year children see only foolish actions in their surroundings, the brain will assume the forms that adapt it to foolishness in later life. As the muscles of the hand grow firm and strong through doing the work for which they are suited, so the brain and other organs of the physical body of human beings are guided into the correct course of development if they receive the proper impressions from their environment (Steiner, 1907, p. 19).

Steiner noted that for the young child learning through imitation is built upon the adult's physical gestures, social/emotional states and cognitive actions. The child's perceptions of their environment are keen – an environment that includes other's actions (adult and child), the inner gesture of the adult, and the physical space the child experiences. After age seven, the mode of learning through imitation does not completely disappear for the child. Imitation is now combined with the child looking to the authority of the adult to guide their learning process. (For an in-depth explanation of Rudolf Steiner's theory, see Appendix A.)

DESIGN AND METHODOLOGY

Introduction

This study is a micro-ethnographic case study of a Waldorf (Steiner) Education based school in the southwest region of the United States. It was a documentation of Waldorf Early Childhood teachers' beliefs, training and practices concerning the use of movement to promote or enhance academic achievement for pre-kindergarten through grade three students. The study was conducted through (1) participation observations, (2) informal structured interviews and (3) spontaneous conversational interviews with the teachers. The study included three pre-kindergarten/kindergarten teachers – including two lead teachers and one assistant teacher; a main lesson teacher for each grade – first, second, and third; an assistant first grade teacher; one specialty teacher in each of the areas of Handwork, Spanish and Eurythmy (movement form to music and speech) and two specialty teachers in movement (Physical Education). All specialty teachers work with students from pre-kindergarten through grade three.

This micro-ethnographic case study looked at the individual Waldorf teachers' beliefs and training (if any) pertaining to the use of movement in the Early Childhood classroom, and their implementation of movement in their day-to-day teaching practices. The purpose of this case study was to document the underlying intentions of teachers in a Waldorf early childhood program in relationship to integrative movement and its connections to learning for the kindergarten through grade three learner. The study focused on curriculum

development, teacher preparation (training), the teacher's use of movement throughout the school day, and their integration of daily movement rhythms and rituals in teaching methods and practices.

The study's research questions focused on (1) movement utilized by the Waldorf teachers within their curriculum, (2) the teachers' beliefs and philosophical underpinnings related to movement, (3) the teachers' observable applications of movement, and (4) discerning what can be learned from the movement practices used by the Waldorf teachers in relationship to creating effective early childhood education programs.

The Micro-Ethnographic Case Study Approach

Clarification of both "ethnography" and "case study" is needed in order to understand the direction of this study. Harry F. Wolcott defines ethnographic study: "Ethnography means, literally, a picture of the "way of life" of some identifiable group of people." (Wolcott, *Ethnographic Research in Education*, 1988). A Waldorf (Steiner) Education-based school's curriculum and its implementation provide just that: a picture of a "Waldorf way of life." By utilizing an ethnographic qualitative approach to this case study, the intentions behind a Waldorf approach to teaching in the early years of childhood were disclosed.

Ward Goodenough notes:

...the culture of any society is made up of the concepts, beliefs, and principles of action and organization that an ethnographer has found could be attributed successfully to the members of the society in the context of (their) dealings with them (Goodenough, 1976, p. 5).

Goodenough implies that it is the ethnographer that accredits culture to that group or society. The following section that describes the focus and intent of the “micro-ethnographic case study” serves to support the selection of my research questions.

The ethnographic approach.

Though Waldorf Education was founded over ninety-three years ago, its transparency to mainstream educators and researchers is limited (Walsh & Petty, 2007). The Association of Waldorf Schools of North America (AWSNA) claims one hundred and forty-six full membership schools in Central and North America and two hundred fifty Early Childhood centers within the United States and Canada. Globally, there are more than nine hundred schools in eighty-three countries. Although Waldorf Education is the fastest-growing independent school movement in the world (AWSNA, *Why Waldorf Works*, 2011) and its global appeal is impressive, the curriculum, theories and practices of Waldorf Education are not widely used or integrated into mainstream education in the United States.

Joseph Tobin proposes that ethnography in educational studies is practiced in an “older, original, nonanalogical” way. He states that studies done about “something intensely unfamiliar and exotic to the researcher and to his or her readers” is a core element in ethnographic research (Tobin, 2005, p. 92).

Although, as a trained Waldorf teacher, I am what might be considered an insider to the theories, practices and understanding of Waldorf Education, the dominant audience for this research is not (Walsh & Petty, 2007). Spindler expresses: “The task becomes one of translating the exotic, the strange, into the familiar, so that readers “back home” can understand and appreciate the way of life you have

learned” (Spindler, 2008, pp. 137-8). Borrowing from Wolcott, in the prior section, the “way of life” or way of teaching in Waldorf Education is exotic to many mainstream education practitioners. Thus, this micro-ethnographic case study may shed light and make the exotic culture of Waldorf education more familiar.

Beach and Finders state in reference to a micro-ethnographic study:

“....in contrast to the usual ethnographic research project, they focus on specific groups, sites, or institutions for a relatively short period of time (Beach & Finders, 1999, p. 82).

Given the narrow scope of this study in reference to its focus on a specific Waldorf early childhood program located in Phoenix, Arizona, conducted within a twenty-eight week period, this study is micro-ethnographic in nature.

The case study approach.

Khairul Baharein Mohd Noor paraphrases Robert Yin’s definition of case study as follows:

Case study refers to an event, an entity, an individual or even a unit of analysis. It is an empirical inquiry that investigates a contemporary phenomenon within its real life context using multiple sources of evidence (Noor, 2008, p. 1602).

Waldorf Education is a contemporary phenomenon due to the fact that it is the fastest growing independent educational movement in the world (AWSNA, Why Waldorf Works: Accredited Schools, 2011). This micro-ethnographic case study is a glimpse into one Waldorf school early childhood program that might be said to represent a majority of Waldorf or Steiner schools throughout the world. Thus, the study fulfills the function Stake supposes in his claim that the more specific

the objective of the study, the more useful the epistemological rationales will appear (Stake, The Art of Case Study Research, 1995)

This case study was not focused upon the entirety of Waldorf Education. It is a case study specifically focused on how Waldorf teachers in a specific school may or currently are utilizing movement within the early childhood classroom to teach, enhance or deliver curriculum.

Micro-ethnographic case study.

Of vital importance to this micro-ethnographic case study was the attempt to understand the actions, beliefs and theories of the individual teachers involved. Keeping clear and detailed notes during observations was paramount to the validity and accuracy of the study. The structure of this micro-ethnographic case study included interviews to procure biographical details about the culture, group or individual (Tedock, 2000). The fieldwork was gathered by the ethnographer rather than being dependent on information gathered by other researchers, or this researcher, previously (Stake, Case Studies , 2000).

Within a case study the role of the researcher may vary. For this particular study, the researcher was a biographer, interpreter and evaluator (Stake, 1995). When conducting this study the researcher utilized all of the above-mentioned roles to make transparent the findings gathered through fieldwork.

Both a micro-ethnographic study and a case study are processes of inquiry with objective detachment about a specific entity, yet include the product of that inquiry that encompass emotional involvement (Stake, Case Studies , 2000) & (Tedock, 2000). The researcher strove to protect the organic process of the events

observed. To lessen the impact of the researcher's presence on the teacher's actions and choices during observations, the researcher took on what Nancy Mandell calls the least-adult role. Mandell refers to the least-adult role with respect to observing children, but the idea can also be utilized in observing practitioners. As a researcher, Mandell fulfills the least-adult role by participating in the children's activities and interacting with the children, not as an authority figure, but as one participating side-by-side (Mandell, 1988). To varying degrees during observations, I was incorporated by most of the teachers into classroom activities as an assistant teacher of sorts. This practice was especially necessary due to the common practice in Waldorf schools of requiring all individuals within the classroom to participate in the activities, movements and rhythms of the curriculum.

Methods Involved

Observations.

Observation by outsiders within a Waldorf Early Childhood setting is rare. The Waldorf Early Childhood setting centers on trust, harmony and rhythm. The philosophical beliefs of Waldorf educators commonly stress the importance of creating a rhythmic, often home-like environment in which a child may experience the wonders of play, self-discovery and practical living skills. Waldorf educators commonly strive to incorporate "outside observers" into the fabric of classroom life, so that the rhythms and harmony of interactions and movement in the classroom proceed as closely as possible in their familiar patterns. This practice is affirmed by Richard Gula's insight when he notes that observational

research has shifted. Gula says such research is now a “matter of interpersonal interaction” and no longer a “matter of objective hypothesis testing” (Gula, 1989).

Working within the “natural” loci of the activities is one of the fundamental research methods of an ethnographic study (Angrosino & Mays de Perez, 2000).

In order to work with the teachers being observed, while keeping the dialogue open and focused on their views, Angrosino and Mays de Perez identify five principles that arise in social interaction observation, when used as means of gathering data for a qualitative study:

1. The basis of social interaction is the decision (which may be spontaneous or part of a careful plan) to take part in a social setting rather than react passively to a position assigned by others.
2. People assess behavior not in terms of its conformity to social or cultural norms in the abstract, but in regard to its consistency, which is a perceived pattern that somehow makes sense to others in a given social situation.
3. Interaction is always a tentative process that involves the continuous testing by all participants of the conceptions they have of the roles of others.
4. Participants validate the cues generated by others in the setting by internal and/or external criteria.
5. People come into interactions by assuming situational identities that enhance their own self-conceptions or serve their own needs,

which may be context specific rather than socially or culturally
normative

Observations were a key element of this study. Observations served as a backdrop for reflection by both the researcher and participants in guiding the informal and exit interviews and determining added questions of inquiry during the process.

The five lead teachers (two pre-kindergarten/kindergarten, first, second, and third grade) and two assistants (pre-kindergarten and first grade) were observed eight to ten times over the sixteen weeks. The special subject teachers (Physical Education, Handwork, Spanish and Eurythmy) were observed two to four times over the sixteen weeks according to each teacher's availability and preferences. The length of each observation for the lead teachers ranged from one hundred eighty minutes to three hundred sixty minutes. The observations of the special subject teachers were fifty minutes. The observations for the lead teachers started at the beginning of the students' school day. Special subject classes (Physical Education, Handwork, Spanish and Eurythmy) were observed during their allotted time periods. Space permitting, the researcher and participant met on occasion for conversational interviews following observations.

The data collected during the observations focused on five areas:

1. Actions (intentional or unintentional) used by the teacher in implementing movement with the students, including but not limited to:
 - a. Movements incorporated into *transitional activities*: songs, clapping rhythms, line formation rhymes, etc....
 - b. Movements incorporated into "*circle time*:" songs, rhymes, gestures, dance, large and small motor movements, etc....

- c. Movements incorporated into activities used to teach particular academic content, concepts and/or theory: games, life-skill activities (cooking, gardening, preparing food, handcrafts, etc.) songs, rhymes, poems, drawing, painting, writing, molding, etc.
2. Actions (intentional or unintentional) used by the students that incorporate movement. These are actions related to the content being taught by the teacher or worked on by the student during a lesson.
3. A mapping of the classroom layout including classroom furniture and the spaces used for circle, movement, physical activities, etc.
4. A description and/or photo of any physical props, materials or apparatuses used to promote or restrict movement for the students within the classroom.
5. Field notes on play periods incorporated within the daily and/or weekly curriculum that promote physical movement

During the observations, data was collected through field notes. The observations were *not* used to gather data on learning styles or outcomes of the students or the quality of the teacher's ability to implement the curriculum.

Interviews

The interviewing process consisted of two parts: spontaneous conversational interviews and semi-formal structured interviews.

Spontaneous conversational interviews.

Conversational interviews took place within the classroom, playgrounds, school grounds, and during teacher prep periods. Spontaneous interviews were not a fixed sequence of questions. They consisted of questions that arose for the observer/interviewer during observations. Conversational interviews were an

attempt to understand the complex behavior of the teachers rather than capturing precise data for coding (Fontana & Frey, 2000).

For example, on the Kindergarten playground during the last two weeks of observations one of the Kindergarten teachers commented that a child was not ready for first grade due to the student's low participation in circle time. She noted that the student would not do well in the "Kindergarten Games." The use of the phrase "Kindergarten Games" was an unfamiliar term to the researcher and had not been presented by either of the Kindergarten teachers in the semi-formal structured interviews. When questioned about the meaning of the phrase, the teacher shared details about an assessment the Kindergarten teachers perform to evaluate kindergarten students' readiness for first grade. This inquiry prompted more questions that led to an invitation by the Kindergarten teacher to observe the first grade assessment in action. During the assessment, one teacher led two children at a time through movements from their morning circle and other physical exercises while the other teacher observed and wrote notes. Asking the question about Kindergarten games in the semi-informal interview process resulted in gaining further information about teacher beliefs and use of movement related to first grade readiness.

The conversational interview questions were typically questions of which the observer/interviewer was unaware until the event or situation arose and needed clarification. The conversational interview took into account the fact that particular observational data may have opened the observer/interviewer to new facets of the study not yet considered or known by the researcher. Additionally,

participants spontaneously struck up informal conversations that prompted the observer/interviewer to consider new aspects of the study formerly hidden from the researcher.

Semi-informal structured interviews.

The second part of the interview process included semi-informal structured interviews. These interviews consisted of direct questioning. Questions were designed to gain specific information on the teacher's relationship to and view of their particular uses of movement with their students and what they believe to be the outcomes of these choices. A set of issue-oriented questions was utilized that allowed the respondent to have a unique experience of telling "their" story related to the role of movement within their classroom (Stake, The Art of Case Study Research, 1995). The interviews ran approximately one to one-half hours and took place prior to the series of observations and after all observations were completed. Audio recordings of the interviews were used with the permission of the participants. This was determined and acquired through letters given and consent forms signed prior to observations (See semi-informal structured interview questions in Appendix B; Verbal-script recruitment letter Appendix C; Information letter example for participants Appendix D; Consent form for participants Appendix E)

Location and Population of Study

The study was implemented in Phoenix, Arizona (USA) at the Desert Marigold School (DMS). DMS is located on a ten-acre campus. The campus consists of seven buildings providing classroom spaces for preschool through

eleventh grade plus two buildings for woodworking and clay modeling, and administrative building; a barn and overhang structure used for outdoor classroom space and animal care (chickens, goats, and sheep); a fenced small stock pond; and four designated play areas – one each for preschool/kindergarten, first through third grades, fourth through eighth grades and high school.

The Desert Marigold School (DMS) was chosen as the site for the study due to its connection to and implementation of Rudolf Steiner's (Waldorf) educational philosophy. With the school's permission, the actual name of the school will be utilized. The school was founded on a Waldorf-based curriculum. Originally, it was administrated as a private school. In 2002 DMS began the process of becoming an Arizona charter school and has retained that status for the past decade. DMS strives to retain and implement Steiner's educational theories, which are at the core of the DMS curriculum (pre-k through eleventh grade, with plans to add twelfth grade in the fall of 2012). Also, the staff of DMS maintains a high standard of Waldorf training in order to implement Steiner's theories within the daily classroom. Of the twelve teachers observed, ten were interviewed for this study. All twelve teachers have full or incomplete Waldorf Training and eight are fully trained Waldorf teachers.

Phoenix is a metropolis in the heart of the state of Arizona located in the south-central part of the state. It is the largest city in the state. Including the suburbs of Phoenix, all within Maricopa County, its population (according to the 2008 US Census) was 4,281,899. The ethnic configuration consist of 58% White persons not Hispanic, 31% Latino, 4.9% Black, 3% Asian, and 2.2% Native

(American Indian). According to the US Census, the median household income was \$56,511 with a per capita income of \$22,251. In 2008, 13.4% of Maricopa County residents lived under the poverty level based on an average home having 2.67% of individuals over the age of five living within one home (United States poverty level \$16,412 for 2.67 people per household) (Census Bureau, 2009).

Desert Marigold School (DMS) consists of approximately 320 students from preschool to eleventh grade. It employs twenty-five to twenty-seven full-time and sixteen to eighteen part-time staff members. Eleven of the fifteen full-time teachers are fully Waldorf trained with the remainder in training. DMS began as a private school in 1994 and took on a K-8 charter in the state of Arizona in 2002. The most senior alumni are turning twenty-two in 2012. With the national average of Waldorf students going to college at ninety-four percent and eighty-eight percent of them graduating (Gerwin, 2007), the senior alumni have a high chance of completing a four year degree by the end of the next Spring semester.

Data Analysis Plan

A profound strength of the ethnographic study comes from a triangulation of collecting data and not relying upon only one source (Wolcott, 1988). This study collected data from multiple perspectives: observations, interviews (spontaneous conversational interviews and semi-informal structured interviews) and cross-referencing practitioner's perspectives. Varying the setting of interaction between researcher and participant allowed the researcher to see the participant's responses from multiple perspectives. Rephrasing, adding and asking

more in-depth questions during various interview sessions allowed the researcher to capture a deeper and broader insight into the participant's responses.

For this study, field notes were taken during and after observations; recorded sessions and notes taken during structured and conversational interview sessions, and documents collected from the participants in reference to their teaching were analyzed. (For examples see Appendix VI) Wolcott noted that the ethnographer has an "unspoken" duty to write a draft of collected field notes while still in the process of observing participants. Writing an analysis of data collected is just as important as collecting the data (Wolcott, 1988). Field notes and data analysis assisted the researcher to recognize new avenues of inquiry and limitations of present modes of gathering data.

Margaret D. LeCompte states: "Analysis is a bit like taking apart puzzles and reassembling them." She notes that with the building of a puzzle, we can cheat by taking a glimpse of the picture of the puzzle before reconstructing the pieces (LeCompte, 2000). Given this picture, analyzing drafts of collected field notes does not include drawing conclusions about the outcome of the study, but simply analyzing data to enhance accuracy and quality of research.

Ensuring Validity in Data Analysis

To ensure this study's validity, several of LeCompte's steps of constructing an analysis were used: tidying up (making copies of all data, putting all notes & interviews in files according to date, creating files based on type of data, cataloging & storing documents and articles, labeling all files, creating an index, reviewing research questions); finding items (frequency and declarations);

creating patterns (similarity, co-occurrence, sequence); assembling structures: (laborious process of cutting and pasting, mixing and matching, triangulating and assembling data by creating diagrams, conceptual maps) (LeCompte, 2000).

The above methods of analysis were used in light of the fact that Education is a field, not a discipline. Some aspects of analysis for this study were based on subjective data, given the parameters of a case study and its qualitative nature. However, this fact may be a strength rather than a weakness, as it invites and encourages the use of multiple disciplinary and methodological perspectives to engage with a core set of problems and issues. Education should not have its own methods of analysis – we should continually be bringing in innovative methods from other disciplines (Tobin, 2005)

Timeline of Study

Oct 31, 2011 – Nov 11, 2011	Stage 1: Initial Structured Interviews Conducted <ul style="list-style-type: none"> • Transcribe Recorded Interviews • Data Analysis
Nov 11, 2011 – Feb 24, 2012	Stage 2: Classroom Observations & Conversational Interviews <ul style="list-style-type: none"> • Transcribe & Organize Field Notes • Data Analysis & Writing Results
Feb 24, 2012 – March 23, 2012	Stage 3: Structured Exit Interviews <ul style="list-style-type: none"> • Reflecting on Interviews & Field Notes • Data Analysis & Writings Results
March 23, 2012 – May 15, 2012	Stage 4: Writing Results of Findings

Limitations or Potential Biases of Study

Because this researcher is an experienced Early Childhood practitioner and a trained Waldorf teacher, the researcher's identity may influence the findings of this study. Being an "insider" to Waldorf Education can be both an advantage and disadvantage." Whether insider or outsider, the ethnographer wants to convey how things appear to those inside" (Wolcott, *Ethnography A Way of Seeing*, 2008). It was vitally important to maintain distance and use neutral responses with participants so the beliefs and experience of the researcher did not influence the participant's willingness to share authentically.

Two limitations of this study were (1) the time available to conduct this study and (2) the sample size of participants. The study was conducted over the course of twenty-eight weeks. A study of participants over the course of a school year would have strengthened the validity of the findings. This study included twelve Waldorf Early Childhood teachers. A larger sample size that reflects diversity in ethnicity, economic status, locale, type of school, type of education and teacher background and training would have given a broader scope for drawing conclusions.

FINDINGS

The purpose of this micro-ethnographic case study was to document the underlying intentions of teachers in a Waldorf early childhood program in relationship to integrative movement and its connections to learning for the kindergarten through grade three learner. The study focuses on curriculum development, teacher preparation (training), the teacher's use of movement throughout the school day, and their integration of daily movement rhythms and rituals in teaching methods and practices.

Organization of Data & Research Questions

In this chapter, data is presented and analyzed by applying data to four research questions, presented in the following order:

1. Research Question 1 - Given current concerns about unhealthy sedentary lifestyles (in the USA and other Westernized nations) and the decreasing emphasis on physical activity/movement in public schools, what can be learned from ways in which movement is enacted in Waldorf education (practice)?
2. Research Question 2 - What movement practices do the Waldorf teachers incorporate into their curriculum (as identified in participant observation)?
3. Research Question 3 - What beliefs and philosophical underpinnings related to the value of movement are guiding Waldorf teachers' practices as they carry out their curriculum in the classroom?

4. Research Question 4 - In reference to movement implemented by the Waldorf teachers, what effects on the children are observable by the researcher?

Findings of the Study

Research question one.

Given current concerns about unhealthy sedentary lifestyles (in the USA and other Westernized nations) and the decreasing emphasis on physical activity/movement in public schools, what can be learned from ways in which movement is enacted in Waldorf education (practice)?

In the study, four significant areas of emphasis related to the use of physical activity/movement emerged, including:

1. The value of free play as a catalyst for a child's physical development, skill attainment and learning
2. Practical methods for helping children to learn structured, teacher-led movements in the classroom, which prepare a child for more sedentary cognitive processing
3. Practical methods for integrating the use of movement during the child's cognitive processing of academic subjects.
4. A heightened awareness for a child's ability to embody stillness as a readiness indicator for more sedentary academic work, and practical methods for utilizing non-active movement to assist a child in learning to embody stillness.

Learning 1: The value of free play as a catalyst for a child's development, skill attainment, and learning.

All of the Waldorf teachers in this study shared a belief that free play is essential for the child in the kindergarten and early grades. As one teacher noted, “Having the children explore and use their imaginations in their play is the biggest thing we’re striving for here and creating time and space to do that.”

Outdoor free play was highly regarded by all of the teachers. Being denied recess was seldom used as a consequence for “misbehavior” or to catch up on needed schoolwork. If a student was asked to stay in at recess, teachers usually provided some form of movement or physical task (folding laundry, painting preparations, straightening books, sweeping, etc.) for the child to complete during their “indoor recess” period. Some teachers regarded the large open outdoor spaces as welcoming the students to engage in whole body large motor skill activities that were prevented by the four walls and smaller spaces of the indoor classroom.

Teachers stated that today’s child has a remedial need to experience free play during the school day to make up for the trend that many children do not experience free play in their time away from school: “they don’t ride their bikes, play kick the can, climb trees, run around.” In 2008 the American Journal of Play published a study noting that 95 percent of the mothers surveyed believed that “their children are growing up too quickly and missing out on the joys and experiential learning opportunities of free play and natural exploration (Childhood, Alliance for, 2010). One DMS teacher asserted, “(In the past), things

children did in free play around the house or neighborhood were natural, now they are remedial in education.” Additionally, teachers pointed out the remedial benefits of free play as an opportunity for a child to work through “retained reflexes” from infancy on their own initiative and develop physical abilities through the organic process of play rather than having to be led through remediation by the teacher. (See “retained reflexes” in keyword definitions.)

Teachers placed high value on being a peripheral presence during free play and relating to children minimally through matter-of-fact reminders of rules regarding space and object use, and social expectations. Teachers expressed their non-invasive philosophy through such statements as:

- “Never do for a child what they can do for themselves.”
- “Recess is so important. I try not to get in the middle of their play.”
- “Children really know what they need for their bodies and movement.”

The teachers shared a belief that free play is vitally important to a student’s growth – physically, socially, and mentally. One teacher commented, “We will put things out there (on the playground) with intention...hoping that (the children) will make certain movements.” Hula-hoops, a balance beam, jump ropes, digging shovels, hay bales, boards, or a mini-trampoline were set out occasionally by teachers to promote children to engage in various types of movement. Movement props were intentionally selected by the teachers to encourage children to work on particular skills needed for more structured physical activities in the classroom and to practice particular types of cognitive

processing that would help them in their academic work. For example, objects such as hay bales and boards were set out to promote the building of obstacle courses, bridges, ramps, and forts. Such building endeavors were meant to help children engage in critical and systematic thinking as they designed and constructed their creations.

As an international leader in Early Childhood Education, the New Zealand National Early Childhood curriculum reflects an equally high regard for free play. The New Zealand national curriculum states:

Strand 5 – Exploration: Goal 1

Children experience an environment where their play is valued as meaningful learning and the importance of spontaneous play is recognized.

Learning outcomes: knowledge, skills, and attitudes

Children develop:

- the ability to make decisions, choose their own materials, and set their own problems;
- the ability that not knowing and being uncertain are part of the process of being a good learner;
- an expectation that they take responsibility for their own learning;
- the knowledge that trying things out, exploration, and curiosity are important and valued ways of learning;
- increasing confidence and repertoire for symbolic, pretend, or dramatic play;
- the knowledge that playing with ideas and materials, with no object in mind can be an enjoyable, creative, and valid approach to learning (Zealand, Ministry of Education - New, 1996, pp. 84-85).

Learning 2: Practical methods for helping children learn structured, teacher-led movements in the classroom, which prepare a child for more sedentary cognitive processing.

A child's need to embody learning physically before the child is encouraged to focus on mental processing in their academic work was a belief shared and promoted by all the teachers. One teacher noted:

"I believe that (all movement) is...a precursor for the academic learning...before they can go up into their brain, they have to be in their bodies and the way they're going to get in their body is by movement."

From the beliefs shared by the teachers and the teaching methods observed, a natural progression was evident in the teachers' intentions concerning movement and its foundation for cognitive processing: the movements of free play allow a child to learn needed skills to embody the more structured movements brought by the teacher; while, structured teacher-led movements prepare a child and enhance brain activity for the more sedentary cognitive processing required to learn certain academic subjects.

Teachers shared the belief that the self-directed, unstructured movements experienced during free play prepares a child for the structured, teacher-led movements of circle time – both in the context of the daily rhythm of the kindergarten and in preparing kindergartners for the more formally structured movements of the early grades. One teacher suggested that activities like jumping rope, hopping, and skipping bring children “right into their bodies so they can do the work of the circle,” and that hard physical work “also strengthens the will

forces” necessary for engaging in the more structured movements brought by the teacher. Another teacher stated that free play helps a child to “incarnate into their (body) for the day,” so they can process mentally through their physical movement. The teacher noted that through the movement, “critical thinking and memorization are happening.”

One of the kindergarten teachers noted to visiting parents on a school tour in reference to the Waldorf kindergarten that, "It is a gift to have two years of Kindergarten." She described the movement-rich environment as making the difference between Waldorf and mainstream schooling practices. She said, “It is a matter of what we put “into” the child (compared) to what we put ‘on’ the child.”

The Waldorf teachers shared a view that the more formative movement learning of the classroom requires the teacher to serve as an enthusiastic guide. Teachers stated:

- "We (teachers) are the conductors. If we are not bringing or doing, (the students are) not going to learn...”
- “If we are not bringing (the curriculum) and moving (the curriculum) with enthusiasm, (the students are) not really learning it.”
- "When it becomes boring to yourself, it is boring to the students."
- “(I want) to be worthy of imitation because I'm so aware of how the eyes are on me at all times."

Researchers Mary E. Rudisill and Sarah J. Wall concur with the Waldorf teachers:

When teachers show little enthusiasm for taking children outside to play when it is too wet, cold, or hot or if they are tired or don't feel like going outside themselves, they pass these feelings along to the children. Modeled behaviors ultimately influence children's desire to go outside and play themselves (Rudisill & Wall, 2004, p. 28).

In addition to formative movements learned in circle time and through imitating the actions of the teacher, teachers were sometimes observed physically adjusting a child's posture or bodily movements. An assistant teacher was observed adjusting a child's block crayon grip and demonstrating to the child the difference between a writing pencil grip, a drawing pencil grip, and the block crayon grip. The Eurythmy teacher was observed acting as a "puppet master," for the children. He stood behind a child and shaped their body into the proper form. This was a practice also used by one of the grade school teachers who explains:

A lot of times there are children who don't get the rhythm of a song or a clapping rhythm or stepping, and sometimes I will partner with them if it's a partner activity, or I will go and stand right in front of them or not across from them but next to them – it depends on what the activity is. Some children, I stand behind them and move their hands because, as I said before, your body actually understands things and can repeat a movement better than (if someone says) 'move your right hand to the right and move your right hand to the left.' Sometimes explaining it is actually much harder than going behind this child and saying this is the movement (without any words really), and showing them with their hands, the movement... Sometimes they can do it after that because they have a physical memory.

The customary handshake at the beginning and end of the school day that teachers extended to the grade school children is an example of movement that creates relational awareness between student and teacher. The teachers all noted the importance of making eye contact with the student while shaking hands. One

noted that, “feeling their hand for warmth is important. It lets you know how awake they are that morning.”

The teachers viewed partner and group movement activities as a means to enhance social relationships. One teacher expressed an awareness that the students not only learned from her modeling of specific movements, but from the other children as well: "Because of my experience, I can really hold and form them a little bit easier and they can see and then imitate the children that are doing (the movements) properly (in my class)." The first-grade teacher also expressed the view that the morning circle was “preparation in forming the first grade” (as a group).

Circle time in all of the Waldorf classrooms was a primary means through which a teacher imparted lessons centered on structured physical movements. Children followed the lead of their teacher’s movement, actions, speech, and song in a “follow the leader” style. One teacher expressed how the rhythmic consistency of the circle time brings needed form to teaching and to a child’s being, which is often subject to the changeableness of everyday life: "...it makes it easier to present the lesson, to do the movement, to sing a song, to do just about anything...the rhythm, they need it. I mean look at the world we live in, what is constant here?"

Through the movement-centered experiences of circle time, teachers brought movement to foster inner balance within the child. Said one teacher: "Children who move well and are balanced in their own bodies seem balanced as

a whole – individually, academically, socially. Balance in their bodies seems to be ripe - ripe for education."

In addition to bringing movements to foster physical, social, and inner balance in the child, teachers also brought (to circle time) specific movements to aid in preparing children for later academic work. For example, In the kindergarten circle, the teachers utilized movement exercises that help the students become aware of their fingers working independently. These movements are used to prepare a child for correct pencil grip when they begin writing in first grade. The children were guided to tap fingers together, on their leg, or with a partner to bring focus to their movement and use of their fingers in particular ways intended to aid their writing and drawing skills.

Another function of the movement-centered circle time for the teachers was that it provides an opportunity for teachers to observe the movement abilities of each child. The teachers are looking for outer signs of maturity and skill that provide the basis for both physical and cognitive learning.

- "I am looking to see if (the students) can walk forwards and backwards with ease."
- "I am looking at their movements to see if they're crossing a midline, the horizontal and vertical midline."
- "I am looking if they can hop, skip, and jump."
- "I watch how they go across (the balance beam). Do they go forward? Are they walking side to side? Do they go very fast to just get over it?"

Teachers expressed utilizing such information to determine where a child is in their physical development and what movement learning is still needed.

Learning 3: Practical methods for integrating the use of movement during the child's cognitive processing of academic subjects.

Woven through the curriculum in the Waldorf classrooms was a use of movement to enhance memorization and conceptualization of mental Math, the recall of literature, poems and songs that contained a variety of academic content, and vocabulary building.

Math times-tables were experienced through a variety of movement activities. The movements were rhythmic and had a repeated pattern to correlate to the particular times table being learned. For example, in third grade class, the three's table was incorporated into a verse that used an anapest – two unstressed syllables then a stressed syllable. The stressed syllable aligned with the three's table results: 1-2-3, 4-5-6, 7-8-9,... The class would walk, stomp, jump, clap or slap the anapest rhythm as they shouted out – emphasizing the times table being learned. This application of using verse and song with movements in connection to times tables was displayed in all three grades classrooms.

A similar exercise was used in memorizing long poems, which were connected to the language arts lesson (speech, reading, writing, or transcribing) the students were working on. The poems were often filled with vocabulary (spelling) words utilized in the lesson to follow. The students used gestures to emphasize key words within the poems. For example, one poem was moved with

the word “SUN” being gestured by holding both arms above the head in a circle formation while fingertips touched above the head. Striking fists together in front of the chest represented the word, “WORK” or “STRENGTH.”

Across academic subjects, such movements as gesturing, walking, stomping, clapping (with self and partner), jumping, bean bag tossing, Eurythmy (formalized movement to speech), rod exercises, ball exercises, and tapping oneself with a beanbag on the arms while reciting were movements directly integrated into learning academic content in the Waldorf classrooms. An example of gestures and movements integrated into the learning of academic content in the kindergarten included grinding fresh grain in a manual grinder, kneading, rolling, and forming a loaf to bake bread. Movements integrated into academic content for the grade school students included handwork, such as knitting (involving counting, addition, subtraction, etc.) for students in grades 1-3, and gardening (involving measurement, beginning botany and earth science, etc.) for the third grade students. Further examples of movements integrated into cognitive processing of academic content are included under “Research Question 2: What movement practices do the Waldorf teachers incorporate into their curriculum (as identified in participant observation)?”

Learning 4: A heightened awareness for a child's ability to embody stillness as a readiness indicator for more sedentary academic work, and practical methods for utilizing non-active movement to assist a child in learning to embody stillness.

Utilizing movement to ready the student for more sedentary academic work was an intention commonly held by the Waldorf teachers. Movement was considered a primary means of helping a child to feel at peace with the stillness required for non-mobile learning, as one teacher asserted: "Children who have not experienced the correct movement help will not be able to sit still and focus. They will make other choices to avoid struggling with focusing." This philosophy was applied by the Waldorf teachers on a daily basis as periods of active movement were followed by more focused desk-centered learning (in the grades) or more focused story time, snack time, etc. in the kindergarten. Teachers also expressed a belief that the extended play-centered educational experiences of the Waldorf kindergarten better prepares a child for the sedentary academic work that becomes more prevalent as a child progresses to each new grade level. One of the primary indicators the Waldorf teachers considered to discern a kindergartener's first grade readiness was: "Can they wait patiently?" One teacher elaborates:

There is an age that young children need to reach in order to begin academics that require sitting and focusing.

A gesture that appeared in almost all movement exercises at circle time in both the kindergarten and grades was one in which the arms are crossed over the chest making an X pattern while a student stands or sits upright. This was usually

done to begin or end a verse or song. The gesture brought the children to a moment of self-contained stillness, which was an aim repeatedly mentioned by teachers in their teaching and in their interviews. One teacher related that her Waldorf training suggested never leaving a child's arms out wide and above the head at the end of a song or verse. The gesture was thought by the teacher to have an effect on a student that would cause them to want to "fall and roll on the ground." The X gesture on the chest is thought to give a child a sense of "grounding."

In the kindergartens and grades classes, students were given ample opportunities to move; yet, when a teacher asked for stillness and quiet, the students were expected to oblige. The teachers expressed unique phraseologies, as they required students to embody stillness. The teacher's high regard for a student's abilities to hold their own body still and "ready" for academic or practical work was evident. Rather than telling children to be quiet or stop fidgeting, the teachers spoke plainly (and sometimes poetically) about their expectations for the children:

- "If you are ready, your feet are side-by-side, just like a brother and a sister."
- "Let me see that you are ready to come into circle? Arms across your chest."
- "We can not start until we are still and quiet to begin."
- "Stand straight and tall."
- "Stand straight and strong."

- "Feet together and arms across your chest."
- "No leaning on the wall. Standing on your own."
- "Books flat on the desk. Feet are flat on the floor. Sitting up straight to work."
- "I want to see a beautiful straight line."
- "Proper pencil grip and proper posture."
- "The rod is just like your back, perfectly straight."
- "Stand straight and tall, no leaning, hands out of sleeves."
- "Hands on desk. Crossed or folded."
- "Keep your feet together. They do not move." (While rods are being passed around circle.)
- "You need to be quiet and still, like the birds in the garden."

In addition to verbal instructions, teachers also helped students to physically adjust their bodies, hands, feet, back, legs, arms, etc. Said one teacher:

"Today a couple of them needed me to adjust the way they were sitting, sitting on their legs in their chairs. I had to go over and adjust their posture."

Such directive instructions to guide students in finding a place of stillness, sitting and standing properly, adopting a correct pencil grip, etc., was intended by the teachers as more than a means to organize the classroom and quiet the students for the teachers' instructions. A student's ability to be still was considered by the teachers as having a significant impact on a children's relationship with themselves and their ability to take in the lesson at hand:

- “You have options in learning if you are standing still and ready.”
- “Leaning, crossed over, bent over...(It’s like they’re) a hose that has kinks in it.”
- “All the students must have their toes forward and feet together to start circle: It is a tactile thing that students can feel.”
- "I feel like they are ready and this is what you do, there's a way that you sit to write, there's a form to everything that you do."
- “Controlling your own physical movements brings physical organization.”

Holding one’s body still and quiet was highly valued by the Waldorf teachers as a symbol of inner strength and balance. One teacher captures the idea succinctly when she says, “Standing on your own two feet. That is ‘Waldorf.’ ”

Research question two.

What movement practices do the Waldorf teachers incorporate into their curriculum (as identified in participant observation)?

Free play and recess.

In the Waldorf kindergartens, students were given two periods of independent free play (one indoor and one outdoor) in the morning, and one session of outdoor free play in the afternoon. The students in grades one through three were given independent free play during recess twice a day. The teachers monitored free play and recess to ensure safety and respect for property. The

range of movement during free play consisted of running, skipping, jumping, hopping, digging, climbing (trees, play apparatuses, mini walls, tables, ropes and hay bales), jump rope (both individually and as a group), hula-hoops, swinging (sit-down, rope and trapeze rings), balance beams of varying heights, slack rope walking, carrying and lifting (rocks, logs, boards and hay bales).

The teacher's interactions with the children at recess were minimal, though some teachers tended to interact more than others. Teachers took a "hands-off" approach, not intervening in the students' imaginative play or displays of initiative (building, game-playing, etc.). Self-direction was encouraged in the children, and teachers respected the child's ability to choose for themselves.

On the large campus, multiple play spaces, objects and apparatuses gave children plenty of choice. The playground set-up and rules supported a child's right to choose and take initiative for themselves. For example, one rule for the children regarding tree climbing was that if a child chooses to climb up a tree, the child must climb down by themselves. During my observation, one kindergarten boy asked if I would help him into one of the climbing trees. I repeated the rule I had heard the teachers give: "To get up in the tree, you need to do it on your own." The boy walked away discouraged, but another boy in the tree persuaded him to roll a log to the trunk of the tree to use it as a step up to grab the lowest branch. He did so, and standing on the log, made several attempts to pull himself up. Finally, he achieved his goal and once he was up in the tree, yelled out to his teacher to make sure she had noted his achievement.

The playgrounds were active, loud and oftentimes messy. Though the students were required to have rain or gumboots, the teachers seemed to accept dirty hands, face or clothing as protocol. Getting dirty was an expected part of the students' outdoor play.

Movement (Games/PE) and handwork.

First, second, and third grade students participated in two weekly classes for Movement/Games (Physical Education) and one weekly class for Handwork. In the Handwork classes, I observed first graders knitting scarfs and flute bags. I observed one first grader spinning wool. second graders were knitting animals (e.g. mouse, lion, owl) and crocheting. third graders were hand sewing little gnomes. (In one of her interviews, the Handwork teacher related that Handwork classes consist of specific crafts for each grade: first grade often begins with finger knitting and felting – both are also done during the kindergarten year in a simpler form. first graders also make their own wooden knitting needles. The first grade students then progress to spinning wool and simple knitting. The second grade students begin the year by reacquainting themselves with knitting, felting and spinning, then move on to crocheting. The third grade students begin with crocheting and move on to advanced knitting, including purl and circular stitches, to make socks. The third graders also begin hand sewing.

The Movement class consisted primarily of cooperative games and occasional health and wellness lessons. The games and activities became more structurally complex and more demanding from the progression of first grade to third grade. In one observation session, first graders played “Dog Catcher,” in

which they stepped into hula-hoops set on the ground to be “safe” from the dogcatcher. First graders also jumped roped. In another observation, third grade movement class consisted of running laps and playing “Freeze Tag,” in which children had to hug a frozen classmate to “unfreeze” them.

Structured teacher-led movement.

Circle: whole group.

The Waldorf “circle” refers to a class period in which the whole class participates in movement exercises, often done in a circular fashion, although it can be done without the class forming a circular shape. Sometimes balance beam exercises, rod exercises, and ball exercises (described below) are incorporated, which may lend themselves to lines and rows for “circle time.” The circle may be done with furniture set aside or by moving around the furniture. It can be done inside or outside, and often consists of songs, verses, poems, and stories set to movement.

The kindergarten participated in three movement circles. The morning kindergarten circle brought both kindergarten classes together. (Kindergarten teachers reported that the “coming together” each morning was for the purpose of the children becoming familiar with one another before beginning first grade.) The circle was brief (5 to 7 minutes), and consisted of nine verses and songs with movement incorporated. It concluded with a morning greeting, noting the children absent for the day, greeting each kindergarten class as a whole, each individual teacher, and a general greeting to parents and families present for the opening circle (who were dropping off children). In their interviews, the kindergarten

teachers reported that the morning circle remained the same for the entire school year.

An example of a circle verse used in the morning circle is “Good Morning Dear Earth.”

Good morning dear Earth,
Good morning dear Sun,
Good morning dear Stones,
And the flowers, every one.
Good morning dear Beasts and Birds in the Tree,
Good morning to you and good morning to me!

The movements that accompanied the verse were as follows:

- Good Morning: Arms open in front of the chest area stretched forward then downward to ground
- Dear Earth: Bending over (at waist) as if gathering flowers from the ground
- Sun: Reaching up towards the sky with arms in a circular form above the head
- Stones: Fists pound one on top of the other
- Flowers: Inner wrists touching, fingers to sky, with hands cupped like flower; fingers wiggling
- Beasts: Two fingers of each hand pointed up while next to each ear, wiggling
- Birds: Hands in front with thumbs overlapping and fingers waving (wing gesture)

- To You: Right arm starts on left side across chest and swings to right side then left arm crosses chest to right and swings to left side
- To Me: arms outstretched to sides in welcoming gesture
- Finish with arms crossed on chest

The kindergarten main circle time ranged from ten to forty minutes. (In their interviews, the kindergarten teachers reported that a new circle lasted ten to fifteen minutes; then, over the days the teachers added content – eventually extending the circle time to forty or forty-five minutes. The main circle changed according to yearly events and seasons, every two to six weeks.) The circles I observed consisted of a range of eight to twenty-six verses and songs – one circle I observed celebrated Fall; another, the Winter Holidays; yet, another was a “Valentine” circle. Sometimes, during circle time, one of the kindergarten teachers offered a “fun circle” with well-known nursery rhymes, such as “Humpty Dumpty,” “This Old Man,” and “Hey, Diddle, Diddle.” Three times during observations, the Spanish Teacher came into the kindergarten to lead a Spanish-speaking circle. (I was told that this occurs once a week.)

The main circle incorporated both large and small motor skill activities. During the circle, teachers led the students into sitting, laying, and standing postures, and sometimes utilized movements that took the students throughout the room and outside. The verses and songs varied from softly sung tunes to loud choruses, gentle and strong actions, and slow and fast motions. The pattern most often noted was to begin soft, quietly sitting; progress to loud, fast and traveling;

return to soft, quietly sitting; and end with a rest period prior to snack. An example of a verse from one main circle time is “My Pony Likes to Walk.”

My pony likes to walk, my pony likes to walk,
My pony likes to trot, my pony likes to trot,
My pony likes to gallop, my pony likes to gallop,
My pony likes to neigh, my pony likes to neigh,
A lot!

Actions: The children began sitting on the ground; knees bent; feet flat on the floor; palms of hands behind each knee. The students sat in a circle formation with feet towards the center.

- Walk: They slowly tapped their feet on the ground in a gesture of walking while remaining in a seated position
- Trot: They sped up the tapping of the feet in the gesture of trotting
- Gallop: They sped up the tapping of their feet in the gesture of galloping (Changing the rhythm to a short-long tapping)
- Neigh: They rolled back on their pelvis’ and lifted both legs in the air (without laying on their backs) and shook their legs in the air (neighing gesture)
- A lot! They slapped both feet to the ground
- The Verse was repeated twice

Large motor skills observed in the main circle were: hopping, jumping (single foot and double footed), skipping, walking (forwards and backwards), walking a balance beam, rocking on the pelvis, standing on tiptoes, rolling on ground, arm circles, leg lifts/kicking and crawling. Some of the fine motor skills

were: individual finger tapping (thumb-to-finger, finger-to-finger, with partners, up and down each arm, on the floor), wrist rolling, and ankle rolling.

The grades teachers incorporated one main circle in the first hour of the day. The grades circle time ranged from fifteen to thirty minutes. The circle in first grade utilized the full thirty minutes while the third grade was around fifteen minutes. The circles consisted of approximately eight to twelve verses and songs. Sometimes movements were performed around the desks, which remained in the center of the room. At other times, a class moved the desks aside prior to circle and resituated them to their proper places afterwards. (During my observations, third grade always moved the desks, second grade never did, and first grade varied). The circle content was changed every three to six weeks. Grades one, two and three utilized most of the movements performed by the kindergarteners; however, there were more upright gestures, more standing and less sitting or lying on the ground.

Working with the mathematics times-tables was an area in which the grade school teachers often incorporated movement. The movements ranged from large motor to fine motor actions often including mobile attributes (skipping, hopping, jumping, etc....) or merely sitting or standing still with only arm and hand gestures incorporated. At times, the students worked on slapping, clapping and beanbag exercises with partners and individually as they recited a particular chant, verse or song. One movement game from third grade was as follows:

- Entire class steps inward towards center of circle counting silently (in head) 1, 2, 3 then shouts out 4 and jumps in air

- Entire class steps outward from center of circle counting silently (in head) 5, 6, 7 and then shouts out 8 and jumps in air
- Pattern is repeated inward then outward until the class reaches 48 ($4 \times 12 = 48$)

Circle: partnering.

Partnering for movement activities was only observed two times within the kindergarten main circle. Partnering took place with hand games such as “This Old Man” and “Mary Mack.” The kindergarten students spent the majority of time working as a large group participating together in unison movements.

Partnering in the grades classes was part of the everyday circle. Students paired up for clapping exercises, usually in connection with reciting verses and to learn times tables. The classes often created two circle formations: one inner circle and one outer circle, facing one another. This allowed for the students to shift either left or right creating new partnering pairs.

The clapping exercises also included slapping (knees, thighs, arms, shoulders, elbows, and top of head), snapping of fingers and stomping of a single foot. The patterns were rhythmic and repetitive. This allowed for the students to keep the beat/rhythm with each other as partners and the group as a whole. Often this exercise was done in connection to mathematics times-tables.

Circle: prop-based.

The kindergarten main circle often incorporated beanbag exercises: tossing beanbags from hand-to-hand, tossing above the head, dropping the bean bag towards the ground and catching it, passing to partners, tapping it up and

down the arm and legs, balancing it on the head and tossing it into a basket. The beanbag exercises were usually inserted into the middle of the circle time as a break from larger motor movements or as a transition exercise. During circle, the kindergarteners also utilized simple obstacle courses designed by the teacher. The course included a balance beam (or permanent structure) to cross, climbing over a structure (for example, a two-and-a-half foot wall in the front of the kindergarten rooms or furniture), stepping on stones or patterned sidewalk spaces, and crawling under, over, or through structures. The obstacle course was constructed both inside the room and outside the front entrance.

During their main circle time, the grades classes utilized movement props such as balls, beanbags, copper rods and jump ropes. They also used small bouncing balls (racquet balls) for passing, bouncing and tossing both hand-to-hand and to partners. The balls were used to spin with fingertips and to roll with the soles of their feet (shoes off). They used beanbags (4" square) and copper rods (1/2" x 30") in a similar fashion tossing them in the air to themselves and partners. All three classes jumped rope (outside) at least once while observing. The second and third grades incorporated two ropes for double-dutch rope jumping. All classes carried out these movements to songs, verses, and poems during circle.

Social etiquette and life skills.

A number of movements observed in the Waldorf classrooms were related to social etiquette and life skills. In the grades classes, every morning each teacher greeted each student with a handshake and verbal greeting. Along with the grades

teachers, the Movement/Games, Spanish, Handwork and Eurythmy teachers all greeted the students with a handshake.

Movements that displayed social etiquette in the kindergarten included students waiting patiently to pass the morning snack around the group table. The teacher began the process of passing the first prepared snack (bowl of rice, soup, etc.) to the child on their left. That student in-turn passed the dish to their left. This process continued until it reached the student at the teacher's right. Each student was served by their classmate on the right and gave to the classmate on their left until all at the table were served. No student ate until all were served.

A similar approach of cooperation was used when cleaning up items in the room after indoor free play. The students were assigned tasks. Some organized materials, blocks, and toys to put away. Some were assigned to fold play clothes. Others assisted the assistant teacher in carrying the compost buckets to the garden. The most unusual "life skill" movement in the kindergartens was the method used for sweeping the floors. The teacher made 6 scooter boards available to the children upon which the children could lay on their tummies. They were given a little broom and little dustpan, so they could scoot around and sweep. The students shuffled around the room lying on the boards on their stomachs holding their legs in the air and stretching to sweep with their mini broom and dustpan. As the students cleaned, they cooperatively organized materials and toys, passing them on to a particular student in charge of a certain area who would put the materials or toys into their proper place. Waiting to take a turn on some apparatus or with a particular toy was approached in a similar cooperative manner. The

students were asked to tell the student in front of them that they were next and take note of who was behind them.

The kindergarten teachers also incorporated making bread, cutting vegetables for soup and gardening into each week. The students sat at the large group table to knead small balls of dough to bake for snack. The teacher and assistant often walked around the table guiding and physically assisting particular students with the specific way in which to knead. Both kindergarten classes started Friday morning with cutting vegetables for their soup snack that day. The students each had a mini cutting board and knife-like chopper. (In the late spring, the students who were moving onto first grade the next year were able to use real cutting knives in place of the duller choppers.) Also in the late winter or early spring each kindergarten class began a vegetable garden in the play yard. The students gathered small boulders to create a border. They tilled the soil and added soil. They planted seeds and watered. The teacher, assisted by the students, often tended the garden.

Eurythmy.

In addition to a regular weekly class period for Eurythmy (gestures of movement related to the sounds and rhythms of speech and to the tones and rhythms of music), all classroom circles utilized movements from the art form of Eurythmy. The Eurythmy gestures are a unique language of movement that utilizes set movement forms and patterns that correlate to letter sounds and tones of music. For example, raising both arms above the head in an open “V” gesture represents the sound “Ahh” the short “A” vowel. These gestures were often

woven into the movements of the songs, verses and poems utilized by the kindergarten and grades teachers during circle.

The kindergartens participated in Eurythmy class during their main circle time once a week. The grades classes attended a weekly class at designated times within the late morning or early afternoon. On their designated day and time, students crossed campus to a large movement room. As the students entered the room, the Eurythmy teacher shook each student's hand and greeted them. The students removed their shoes and formed a circle in the large open room. The class began with music played live (by a pianist), while children followed the Eurythmist (movement teacher) in a circular or spiral formation while doing arm and hand Eurythmy gestures.

The Eurythmist led the students through their Eurythmy in three phases: (1) large motor movement using the entire room, (2) small motor movements done either sitting or standing with both the arms and legs, and (3) teacher and students walking patterned forms with accompanying arm and hand gestures.

At the beginning of class, the students followed the teacher in a "follow the leader" formation with a great deal of skipping and hopping. When the pianist finally stopped playing, the students finished in a circle formation. The teacher spoke verses (poems) as the students gestured, utilizing their arms, hands, legs and feet. As a group, the students moved inward and outward from the center of the circle, keeping their circular formation. The students sat near one side of the room, while the teacher created a pathway by laying beanbags and copper rods on the floor for the students to skip, hop and jump over while moving to music

provided by the pianist. The class ended with the teacher shaking hands with each student as they left the room.

Research question three.

What beliefs and philosophical underpinnings related to the value of movement are guiding Waldorf teachers' practices as they carry out their curriculum in the classroom?

Five foundational beliefs emerged among the Waldorf teachers who were interviewed:

1. Movement-based learning is a prerequisite for cognitive learning
2. Free play and circle movement are curatives for retained reflexes
3. Working on midlines to enhance a child's physical growth and organization of the brain can best be done through movement
4. Movement fosters both spatial awareness and body awareness – grounding thoughts
5. Childhood ought to be preserved – play and movement are priorities

Movement-based learning is a prerequisite for cognitive learning.

Movement-based learning was one of the most significant underpinnings of the Waldorf teachers' shared philosophies, practices and methodology related to preparing students for cognitive learning. In the words of the teachers:

- "I believe in Waldorf. I believe in the movement part of it extremely...there is an established Waldorf curriculum."
- "I bring enthusiasm for movement...when teaching poems. I just add those extra movements, a little bit of Eurythmy."

- “Tapping a beanbag slowly up the arm on both sides, during a verse, helps with reading. It helps the child to cross the left to right midline...one word for each tap.”
- "We have this upright organization (in our bodies); if our feet are crossed and our hips are bent and our back is curved, you're not really ready for information to come in."
- “Moving and Math are laid in geometry or body geography...”
- "...there's a way that you sit to write, there's a form to everything that you do."
- “Balance in their bodies seems to be ripe - ripe for education."
- "I believe that (all movement) is...a precursor for the academic learning.”

Such beliefs regarding the essential inclusion of movement for a child’s learning were clearly reflected in the teacher’s daily teaching practices. The teachers made free play movement periods and structured teacher-led movement periods a priority. The Waldorf curriculum includes classes in Movement/Games for students in the grades and Eurythmy (movement to speech and music) for students in both the kindergartens and the grades. The students in the DMS Kindergarten classes were allowed 775 - 1250 minutes of activity/movement per week, while the first through third grade students were given 405 – 575. (See Table 1) First through third grade students receive between 405 – 575 minutes of recess and P.E. classes per week. (See table 2)

<i>Table 1</i> <i>Time spent on intentional movement in kindergarten</i>	
	Minutes A day
Outdoor Free Play	60 - 90
Indoor Free Play	45 - 60
Aftercare Free Play	30 - 45
Morning Circle	5 - 8
Main Circle	15 -40
Closing Circle	5 -7
Weekly	775 -1250

<p>Table 2 Time spent on movement per week: 1st through 3rd grade</p>			
	First: Minutes A day	Second: Minutes A day	Third: Minutes A day
Circle	125-150	100-125	75-125
Morning Recess	100-125	100-125	100-125
Afternoon Recess	100-125	100-125	100-125
Extra Recess	20 -30	20 -30	None
Movement (P.E.)	90	90	90
Eurythmy	40	40	40
Weekly	485 - 575	450 - 550	405 - 505

Free play and circle movement are curative for retained reflexes.

Primitive reflexes ideally begin to function in a particular order and are integrated in a specific sequence. If they are retained out of sequence, they disturb the development and integration of subsequent reflexes. If they are retained beyond their normal age of integration they can disturb some or all of the functions of higher centres, which includes behaviour, learning, the integration of gross or fine movements and more. Basically, the perception of our inner and outer environment and our response to it may be disturbed; that is, conscious life may be disturbed. (Keen, 2006)

As Keith Keen asserts, if base reflexes of the infant are retained, not developed or integrated into the body at an early stage of life, the individual may experience issues with fine and gross motor development.

The Waldorf teachers repeatedly expressed their concerns regarding their role in helping students work through and integrate retained reflexes:

- "We are looking for balance, rhythm and memory. If they have retained reflexes from early years, looking how to remediate that."
- "Retained reflexes are infant reflexes that are still in need of work to have their physical body develop."
- "Retained reflexes affect pencil grip."
- "Retained reflexes, for example, when children who sit on their feet, wiggle, sway...can not control their actions until they have worked through these."
- "The reflexes of the baby may still need to be worked on or out in order for the child to progress. Learning how to walk before you can talk."

- "If children miss steps of infancy reflexes, they will struggle with control of balanced movement. Thus, they will not be master runners, swimmers, etc.
- "Retained reflexes - it comes from our culture, our kids in car seats and non-movement."
- "We are seeing a lot more retained reflexes. Reflexes that babies have that should be gone within the first year."
- "Allowing all the movement, it's helping to eliminate those retained reflexes, which will block or hinder their academics."

Five of the eight teachers interviewed mentioned the importance of helping children to remediate (work through) retained reflexes. One of the teachers who did not broach the subject of her own accord in previous interviews was asked in the exit interview about the concept; she noted an understanding of the term in connection to infants and remedial work. She also noted that one of the school's consultants had brought lectures and workshops based on the theory.

Working on midlines to enhance a child's physical growth and organization of the brain can best be done through movement.

There are three midline planes of the human body. Medical professionals often refer to sections of the body in terms of anatomical planes (flat surfaces) or imaginary lines. The description of each is as follows:

1. Sagittal or Lateral Plane: right and left
2. Coronal or Frontal Plane: front and back
3. Axial or Transverse Plane: above the waist and below the waist

The Waldorf teachers referred to the midlines several times during both the spontaneous conversational interviews and semi-informal structured interviews during and after observations. They noted that a student's ability to cross the sagittal midline was a key factor in tracking for reading. They mentioned that children needed to cross all midlines in order to acquire physical balance of the body allowing the child to advance in their physical growth. Some of the statements made by the teachers were:

- "We are seeing so many children not able to cross the midline (left to right), not able to do eye-hand coordination."
- "I am looking at their movements to see if they're crossing a midline, the horizontal, and vertical midlines."
- "Sewing, finger knitting, coloring, painting, wool making, wool spinning, felting, mortar & pestle work, ALL are good for crossing midlines and fine motor development."
- "We work on helping children with crossing their midlines." (school tour)
- "Crossing midlines are important for physical growth that influence academic growth."
- "Crossing midlines helps with reading - tracking."
- "Students lose their place when copying from the board. Eye muscles are not oriented. Exercises in crossing midlines helps."
- "Children struggle to play recorders due to crossing midlines with fine motor skills."
- "Pounding one hand over the next in front of the chest to represent work - brings the child to the midline."
- "Tapping a bean bag slowly up the arm on both sides, during a verse, helps with reading. It helps the child to cross the left to right midline...one word for each tap."

Teachers incorporated work on midlines into many of their movement activities – in circle time; through ball, beanbag, and rod exercises; Eurythmy; Handwork – knitting, crocheting, and spinning wool. Thus, remediation and curative work for both “retained reflexes” and “crossing midlines” took place in the context of the set curriculum rather than being set aside as a “remedial class” or in a session with a “remedial teacher.”

***Movement fosters both spatial awareness and body awareness –
grounding thoughts.***

The Waldorf teachers repeatedly mentioned the importance of a child being grounded in their physical body in relationship to space. Often the teachers used body awareness and spatial awareness as symbolically reflecting a child’s relationship to themselves and to the larger world. In their interviews, the teachers used phrases such as “stand on their own two feet,” “find yourself in space,” “lost...in space,” “to be free (in their spaces)” to describe a child’s relationship to their body and the space around them.

One teacher articulated the relationship of a child’s body awareness in space and it’s importance to learning thus:

...he’s such a great dancer. He can move so well...but that is a kind of disorganized movement. You can do whatever you want. What I want the children to be able to do is be in control of their movement and have their movement be purposeful. We’re moving forward at a certain pace, and we’re moving backward... everybody...it’s also even social. Can I move to the left? Well, there’s someone right there, you know. Can we all move to the left? Can we all move to the right? There’s so much in it. Can you stamp your feet? Left foot, right foot. It’s really imperative for organization.

Jeanne Anthony and Ruth Edgington, in their article, “Classroom Performance Improved Through Movement” state:

Organization of self comes before organization of things, and a well-organized person is a successful person in school and in life... The child who is unable to wait for the “go” signal, and/or cannot “stop his motor” with the “freeze” command, has control-and-release problems that are manifested in the classroom as impulsivity and lack of self-control. These problems inhibit his (sic) ability to perform successfully in academic areas (Anthony & Edgington, 1971, p. 425).

Bodily organization was thought by the Waldorf teachers to indicate organization in other aspects of the child’s being – the brain, social organization, work, etc.

They explained this relationship through a number of analogies and anecdotes:

- “You can see it in the children that are flailing about, and they are disorganized in their desk, in their movement, and in their work.”
- “She spins and she twirls and...she’s very fluid in her movements... Her desk is kind of messy...(and) she will even skip around on the page and do one here and there of a problem in Math.”
- “Kids write from the bottom up, and those are kids who aren’t in control. Can you run and stop on a dime? Then I ask the same child, ‘Can you stop talking when I ask?’ They can’t do it. They can’t do it.”
- “It inhibits your learning later if you can’t ground when you’re young, if you don’t find yourself in space.”
- “I see where kids don’t raise their hands...their arms up above their head anymore.”
- “When your feet are wrapped around your chair, you’re not ready (for a writing lesson).”

- "...where you are in space...that, to me, would lead into how/where you are socially with people."
- "...certain movements will help those (social limitations) fall away, (so) that there's less confusion in the brain. The brain will be able to process more accurately..."
- "Just trying to get...really trying to get the children to orient in space. The above, below, the left, the right, the forward, the backward. I mean your basic stand; that's where you are on the earth. That's what I want them to start with."

Thus, free play and the freedom to choose one's own self-directed movements – a priority granted to the children by all of the teachers is balanced with a view that formative movements help a child to relate to themselves, their personal space, others, and the personal space of others in ways that produce more organized, socially healthy relationships that enhance a child's openness and readiness to learn.

Childhood ought to be preserved – play and movement are priorities.

During the initial interviews, the teachers answered a question in reference to their own childhood and the movement activities they remembered from their early years. All eight teachers interviewed spoke of their childhood nostalgically. They mentioned the physical activities of playing outside, riding bikes, climbing trees, playing games such as kick-the-can and hide-n-seek, etc.

Along with relating their own fond memories, all of the teachers noted that children today are being deprived of the exploratory and physical experiences that were central to their own experiences growing up. One teacher stated, "The

children are lethargic in the morning, because they don't ride their bikes, play kick-the-can, climb trees, run around." Another teacher noted the shift in culture towards children using electronic media in lieu of physical activity by saying, "Children are less active - sitting in cars, watching TV, playing video games." The belief that electronics and media negatively influences a child's ability to move in a positive manner was touched upon by one teacher who declared:

"(When we were children) TV, microwaves, computers were less of an influence. Our breathing was more even. And so, now I think we need to layer our teaching more than before...some of these children, if there's no noise (tapping on the desk) they can't stand it...Some of the kids find it excruciatingly painful because they have to go slow...repeating things is hard for them."

Each teacher interviewed was asked if their own past connection to physical activities as a child influenced their teaching or views of instruction with students in their care. All noted that the more active, physical, unencumbered childhood they remembered greatly influenced what they wanted the students to experience.

Research question four.

In reference to movement implemented by the Waldorf teachers, what effects on the children are observable by the researcher?

The intention of this study was to observe the teachers' teaching practices and interview them about their beliefs and intentions related to their teaching practices regarding movement. However, in my observations, I also noted four overarching effects of how movement influenced the attitudes and relationships of

the children toward learning, toward themselves, their teacher/s, and their peers, as follows:

When movement was incorporated in learning, children were more eager and engaged.

Kindergarten.

The first observation of the kindergartners during morning outdoor play appeared as a park-like setting where children and their parents had congregated. Each morning eight to ten of the parents and their younger children remained at the school until the morning circle was complete. The children engaged in outdoor play with great interest.

In all twenty observations of the kindergartens, when the teachers sang a song to gather the students for the outdoor morning circle, only one time did a student remain playing in the yard rather than coming when called. Otherwise, it took only moments for the children to run towards the kindergarten patio to clasp hands and begin moving to the songs and verses of the morning circle. The volume of the student's voices could be heard across the play yard.

During morning free play, each kindergarten teacher assigned indoor tasks to a handful of students while the other students continued their outdoor play: setting snack table, putting out the students' indoor slippers, assisting the assistant teacher with cooking and filling the glasses with water, etc. Only once did a student (the same student as mentioned above) complain about doing the given tasks rather than remaining outdoors for free play. After a simple secondary request from the teacher, that child fully participated in completing the tasks.

As free play ended, the students were once again sung to as a cue to stop playing and wash their hands before going inside. Similar to the morning circle, the students made a beeline to the assistant teacher waiting to assist them. Upon the teacher's call, the play yard was quickly deserted. Each student washed their hands, eagerly put on their slippers and sat down on the circle rug. There was very little, if any, "horsing around" by the students.

The teacher was sitting on the rug and began the main circle of the day. The students fully participated. There were moments when students "spaced out," and there were students who appeared more tired than others, but in the twenty sessions no child refused to participate, argued with the teacher or another student, or disrupted the process or movements of the circle work. The students sang, spoke and moved to the verses. Circle for both kindergartens ended with the students resting on the rug for four to six minutes. The room was quiet. So much so, that the teacher's singing voice was all that was heard.

The students were responsible for cleaning their own dishes after snack. They washed, washed again, rinsed and put the dishes on a drying rack. The last students to finish snack were responsible for bringing all dishes and washtubs to the kitchen before they could join in indoor free play, but the students did not rush eating in order to avoid the task of clean up.

Indoor free play became loud and messy within the small space. At the end of free play, again, the teachers sang to prompt the students to begin cleaning up the room. It took only two to three minutes before all students were participating in the clean up effort. The energy in the room was high and several

students assisted each other (without prompting) in folding clothes, organizing large wooden blocks and hanging up costume pieces. Within eight to ten minutes the classroom was neat and tidy, and the students were sitting on the circle rug.

The room became calm and quiet as they all sang and moved to the few songs of the closing circle. By the end of the circle, the room was quiet. The teacher sang about a little Blackbird flying away, prompting the students to get their own lunch from their cubby and sit at the table. Lunch began and quiet conversation ensued.

Grades 1-3.

Observation of the three grades, first, second and third, had numerous contrasts in focus and instruction, but the atmosphere (physical space, instructional style and morning rhythm of curriculum) were closely aligned. All three teachers began the day by shaking each student's hand, looking them in the eyes and striking up a simple conversation connected to the student's prior evening. The students waited in line outside the room for their moment to engage with the teacher. The entire process took approximately five to eight minutes each morning. Students generally appeared to warm up to their teacher's handshake and were willing to engage in the brief conversations that came with it. Approximately seventy percent of the students (all three grades) talked in length in response to the teacher's question(s) or greeting. The students were animated in their interactions with the teacher; so much so that the teacher had to curtail conversations and move children on to begin the school day.

The daily schedule began with a two-hour session referred to as “Main Lesson.” Within the two hours, each teacher incorporated a movement circle period, which was 15 to 30 minutes in length. When engaging movements were incorporated, the students interacted fully with the material. For example, the third grade began each of their movement circle periods by moving all student desks to the edges of the room. The students, without much prompting from the teacher, then formed a circle within the open space of the room. The students clapped, slapped, stomped, and jumped to verses and songs that incorporated math times-tables, language arts rules, and classic and contemporary poetry.

However, in one class, the teacher had a tendency to “talk” to the students occasionally during circle time rather than “doing” or “showing.” Whenever, the teacher stopped the movements to talk with the students, the students’ focus and interest waned. During the first two observations, this teacher had to ask the students to sit back down at their desks and begin circle time again.

The same verse (“The Sun With Loving Light”) was recited in each of the three classes either before or after morning circle. The first grade teacher had a set pattern of movements to the verse. The second grade teacher had some set actions. And the third grade teacher barely utilized any movements with the verse. The students in first grade, as a whole, showed enthusiastic interest in reciting and moving to the verse. The third grade students showed a minor amount of engagement while the second varied with each visit. These engagement levels directly correlated with the teacher’s own enthusiasm and engagement in the movement and recitation of the verse.

Circle within each of the three classrooms had a different level of structured movement. The first and third grade teachers incorporated movement to approximately ninety percent of the verses and songs. The second grade teacher, who was in her first year as a lead teacher, incorporated movement to approximately sixty percent of the verses and songs. These movements were similar for each song or verse. The movements used by the first and third grade teachers were more varied and complex, especially in the third grade.

Compared to the older two classes, the students in first grade brought the most enthusiasm to circle movement. They giggled and verbalized their excitement about doing the movements while fully participating in each activity. They waited patiently during transitions between activities. second grade students showed the least enthusiasm. At times, they grumbled about participating in the movement exercise while goofing off and disengaging during transitions of activities. The third grade students showed a low level of enthusiasm for circle movements that did not include props. When props were not used, they were more apt to interrupt the teacher's instructions and reprimands asking them to focus their attention on the activities. They sometimes goofed around during the circle activities. However, their level of interest and engagement increased with the inclusion of balls, rods and beanbags. Overall, however, students in all three grades showed no overt signs of defiance or total disengagement from the movement activities of circle.

Recess for all three grades showed the students at the highest level of engagement and interest. The students fully participated. They engaged with peers

in a positive manner and rarely requested help from teachers or play yard monitors.

Movement/Games (P.E.).

Due to the Movement teacher's request, the observations of Movement class were limited. The first and third grades were observed one time each. The class was fifty minutes in length. The school does not have a gym or movement room for classes to utilize. The classes took place in specific areas of the play yard designated by the Movement teacher.

Both classes were greeted by the teacher within their classroom and led out to the play yard. The students' energy level and excitement was high. Students revealed their excitement by repeatedly asking what game or activity they would play in class. They softly clapped, verbalized a comment of pleasure and talked to peers in happy tones when the teacher responded to their questions.

Once the class was instructed in reference to the rules and boundaries, the game or activity began. The games consisted of various forms of tag games, chasing games, running games, and cooperative group games. The activity level for both classes was high and remained high throughout the non-stop class period. Only two students within the third grade chose not to participate in part of the class activities. One boy was feeling sick and only wanted to observe. Another boy had been hurt prior to school beginning that morning. Otherwise all students fully participated with strong engagement.

Eurythmy (kindergarten and grades).

The Eurythmy sessions were filled with non-stop movement, except for the few moments the teacher took to construct the pathway of beanbags and copper rods on the floor for the students to navigate. The class followed the teacher through the maze of objects to hop, jump and skip over and around as the music from the pianist played at a fast tempo. The students were sweating and breathing hard as they completed the exercises. Some students made comments on how tired they were and that they needed to rest. The students had a high level of engagement during all sessions. They laughed and made gleeful sounds throughout the class period. When the teacher asked for volunteers to lead or show a movement, almost every hand went up.

During the class sessions, only two boys in the third grade were singled out by the teacher for goofing around and not paying attention. A week prior in the first grade, the teacher told the class that Eurythmy had to be cancelled that week. The students verbalized their intense disappointment. The teacher reassured them that she would see if the Eurythmy teacher could find another time in the week to have class. The smiling facial expressions and affirmative verbal responses reflected that the students were pleased with the idea.

After movement, children were more focused and ready/open to receive guidance for cognitive learning and engage in bookwork.

In addition to the focused and ready attitude of the kindergarteners after outdoor and indoor free play, in the grades classes, the quietness and focus that

followed circle movement was also apparent. All three classes showed a level of intentional engagement in their dictation, math worksheets, drawing, and writing. The level of noise throughout each room lowered to a minimal whisper or complete silence. The amount of interruptions from students needing help or disrupting others was also minimal during the hour to hour and a half following circle movement.

Cooperative movements and activities increased social awareness and positive interactions between peers.

Cooperative and collaborative efforts were plentiful between classmates, and were woven into the fabric of the daily life of the classroom. As described in previous sections, kindergarteners displayed a high level of cooperation with one another when cleaning up, at snack time, at recess with building projects and in suggesting possible solutions to individual problems, such as the kindergarten child who wanted to climb a tree and finally accomplished it after his classmate suggested he roll a log over as a stepping stone. Two tasks in the kindergarten that were completed by two students at a time were setting the table in the morning for snack time and setting the indoor slippers for each child around the edge of the circle rug. As students worked together, they were the epitome of helpfulness and thoughtfulness as each student wanted to make sure they contributed their part. Two of the children went through an elaborate cooperative decision-making process deciding whose slippers should be placed next to each other.

Cooperative and collaborative efforts between grade school students were also prevalent. In addition to cooperative efforts to build forts at recess time,

grade school students also engaged enthusiastically in group projects in the classroom. For example, in the first grade, when students moved their desks for circle time (an activity incorporated after the seventh observation), the creative energy and enthusiasm for the effort was high. The students worked as groups in moving the large two-person desks aside. The same was true for returning the desks to their original order. It took two to four students to move each desk a minimum of six to seven feet. The first graders stacked two of the desks one on top of the other. This effort took six students to lift and take down. During the shifting of desks, both directions (creating space and returning them to order) the students worked with minor disagreement or discussion. The entire process took only three or four minutes.

In all grades classes, when a student was wiggling and couldn't sit still, the teacher gave the student a stool. The stool was used as a balancing activity, so the student could focus their wiggling energy on sitting still and balanced on the stool. The one-legged stool was a highly prized item in each of the classrooms. (Appendix VIII: Photos) However, in the third grade during one observation, a student who had just received the stool a moment before was asked to offer the stool to a student who was especially fidgety. The student obliged willingly.

Movement aids students in recall of content; math, vocabulary, facts.

When observing the third grade, one student was working on a morning Math sheet of long multiplication. The student appeared to be stuck in figuring out the result of six times nine. Without any prompting from the teacher, the student started to hum the tune from the verse the students learned on the six

tables. The student also began to clap and slap his legs in a quiet manner, in connection to the movement learned with the verse during circle. Within a few seconds, the student wrote down the answer and moved on to the next math problem on the worksheet. The student continued to use their clapping and slapping rhythm with humming to answer several of the math problems.

A first grade student asked the teacher which way is right (direction). The teacher noted a verse from their circle time (“One step to the left we take with delight. One step to the right we do with our might. One step going forward is moving ahead. And one step to the back without turning our head....”) and asked the student to stand and do it with her. Once the student did so, the student laughed and smiled, sat down and said, “thank you.” The child’s question was answered by means of using a movement verse learned recently without the teacher merely giving the answer in verbal form.

Summary

Given current concerns related to the effects of sedentary teaching practices, this case study of the teaching practices and beliefs of the DMS kindergarten teachers, early grades teachers, and specialty teachers revealed four areas in which insights and practical methods related to movement based learning may be gained:

1. The value of free play as a catalyst for a child’s development, skill attainment, and learning

2. Practical methods for helping children learn structured, teacher-led movements in the classroom which prepare a child for more sedentary cognitive processing
3. Practical methods for integrating the use of movement during the child's cognitive processing of academic subjects
4. A heightened awareness for a child's ability to embody stillness as a readiness indicator for more sedentary academic work, and practical methods for utilizing non-active movement to assist a child in learning to embody stillness

Movement practices integrated into the curriculum by the teachers which were observed, included: recess and free play, Movement/Games (P.E.), Handwork, structured teacher-led movement (circle – group, partnering, and prop-based), social etiquette (handshake, passing snack, taking turns, etc.) and life skills (cleaning, building, gardening, etc.), and Eurythmy.

The five foundational beliefs regarding movement that emerged among the Waldorf teachers who were interviewed included: (1) movement-based learning is a prerequisite for cognitive learning, (2) free play and circle movement are curative for retained reflexes, (3) working on midlines to enhance a child's physical growth and organization of the brain can best be done through movement, (4) movement fosters both spatial awareness and body awareness - to ground one's thoughts, and (5) childhood ought to be preserved – play and movement are priorities.

Some effects of the movement practices on the children which I observed included: (1) when movement was incorporated in learning, children were eager and engaged, (2) after movement, children were focused and ready/open to receive guidance for cognitive learning and engage in bookwork, (3) cooperative movements and activities increased social awareness and positive interactions between peers, and (4) movement activities aid in recall of content and skills in Math, vocabulary, facts.

CONCLUSIONS AND IMPLICATIONS

Introduction

Chapter five is divided into four parts: (1) a summary of the research, (2) conclusions of the study, (3) the implications of the research, and (4) recommendations for further research.

Summary of the Study

The purpose of this micro-ethnographic case study was to document the underlying intentions of teachers in a Waldorf early childhood program in relationship to integrative movement and its connections to learning for kindergarten through grade three learners. The study focused on the teachers' beliefs and philosophies related to movement-based learning, teacher preparation (training), the teacher's use of movement throughout the school day, and their integration of daily movement rhythms in their teaching methods and practices.

The study investigated five lead teachers, two assistant teachers, and five specialty teachers through a qualitative micro-ethnographic case study that included observations and interviews (Wolcott, 1988). The study took place over a twenty-eight week period (November 1, 2011 to May 15, 2012) and consisted of each lead teacher and assistant teacher being observed seven to ten times for a minimum of three hours each visit. The specialty teachers were observed two to four times. Informal structured entrance and exit interviews and spontaneous conversational interviews (conducted during breaks, transitions, and after observational periods) were utilized with the five lead teachers. Spontaneous

conversational interviews took place with the five specialty teachers as their time permitted, and three of the specialty teachers were available for informal structured entrance interviews.

Prior to informal structured interviews beginning, informed consent and human subject approval forms (Appendix D) were sent to the twelve teachers selected to participate in the study. Verbal consent for the researcher to enter the school and conduct the study was obtained from the administration (Appendix C). Each entrance and exit interview was recorded and then transcribed and coded. Note taking was utilized during all spontaneous conversational interviews.

Chapter four provided findings of the data obtained from the study. The researcher discussed the findings as they related to the four research questions that guided the study:

1. Given current concerns about unhealthy sedentary lifestyles (in the USA and other Westernized nations) and the decreasing emphasis on physical activity/movement in public schools, what can be learned from ways in which movement is enacted in Waldorf education (practice)?
2. What movement practices do the Waldorf teachers incorporate into their curriculum (as identified in participant observation)?
3. What beliefs and philosophical underpinnings related to the value of movement are guiding Waldorf teachers' practices as they carry out their curriculum in the classroom?
4. In reference to movement implemented by the Waldorf teachers, what effects on the children are observable by the researcher?

Conclusions of the Study

The data from research question one revealed that the following might be learned from ways in which movement is enacted in the Waldorf-based Early Childhood curriculum of the Desert Marigold School (DMS):

1. The curriculum provides a wealth of practical methods for:
 - a. Encouraging various modes of free play intended to enhance a child's physical, social/emotional and academic development
 - b. Integrating teacher-led movements into the daily curriculum
 - c. Utilizing movement to aid cognitive processing and prepare students for more sedentary academic work
2. Practical methods for integrating remedial work into the daily classroom curriculum
3. Practical methods for utilizing intentional movement to help a child learn to embody stillness as a means of focusing attention and energy on cognitive processing during the learning process

The analysis of research question two revealed three areas that the teachers incorporated movement into their curriculum: (1) Free Play – the preschool and kindergarten teachers provided ample time for daily free play, both indoors and outdoors and the early grades teachers provided two recess periods each day for grades one through three, (2) Movement Classes – a weekly games/movement (P.E.) class and a weekly Handwork (crafts) class for grades one through three, and a weekly period of Eurythmy movement was provided for

all early childhood classes, (3) Structured teacher-led movement – teachers led activities that the students experienced as a whole group, in partnering pairs, and through prop-based movements and activities during circle time.

Research question three uncovered five philosophical underpinnings held by the Waldorf teachers related to movement: (1) Movement-based learning is a prerequisite for cognitive learning, (2) Free play and circle movement are curative for helping a child to work through retained reflexes, (3) Working on midlines to enhance a child's physical growth and organization of the brain can best be done through movement, (4) Movement fosters both spatial awareness and body awareness which aid in grounding thoughts, and (5) Childhood ought to be preserved – play and movement are priorities in promoting a child's health and well-being.

Data related to research question four revealed observable effects of movement on students in four areas: (1) When movement was incorporated in learning, children appeared to be more eager and engaged, (2) After movement, children appeared more focused and ready/open to receive guidance for cognitive learning and engage in book work, (3) Cooperative movements and activities appeared to increase social awareness and positive interactions between peers, and (4) Movement was observed aiding in recall in content skill areas of Math, vocabulary, and content based facts.

Based on the observations summarized above, movement integrated into Early Childhood curriculum practices may enhance a student's eagerness to participate and engage, aid in recall and cognitive processing, and extend and

focus a student's attention. Movement may also be a catalyst for creating social awareness and cooperation between peers and between students and their teacher.

(Pica, 2006)

Implications of Study

Two significant implications of this study arise out of this researcher's observations of the comprehensive use of movement by the Early Childhood teachers at Desert Marigold School (DMS):

Studying the movement-based curriculum of Waldorf Education.

The movement practices of the DMS teachers observed in this study contrast starkly from mainstream movement practices, especially when one considers that only 3.8% of Elementary schools provide P.E. for their students on a daily basis. The remaining 96.2% receive an average of only 40 minutes of P.E. per week, while first through third grade students at the Waldorf school are given 130 minutes of P.E. per week (excluding additional movement they experience in circle time and movement integrated into other academic subjects, including a weekly Handwork class). (See Table 2)

According to the U.S. Department of Education, the national average for recess time given to first graders in the United States is 27.8 minutes per day or 139 minutes per week. (Barth, 2008) First graders at DMS receive between 44 – 56 minutes of recess per day and 220 – 280 minutes of recess per week.

Contrasts between the national average and DMS's curriculum for recess and P.E. classes combined are marked. According to the Department of Education, the national average for time spent in recess for first through third

grade students is 25.8 minutes per day or 129 minutes per week, (Barth, 2008) and according to the Department of Health and Human Services, the national average for P.E. classes for first through third grade students is 40 minutes per week (Brener, 2007). The national average for recess and P.E. classes combined is 169 minutes. At DMS, first through third grade students receive between 405 – 575 minutes of recess and P.E. classes per week.

The Waldorf-based curriculum I observed at DMS integrated movement into all areas of learning for the young child. Yet, although Waldorf education was conceived ninety-three years ago, Waldorf education has not been a major focus for educational researchers who are studying the effects of movement on a child's cognitive processing and academic learning. Past research has focused predominantly on sedentary learning environments and the effects of non-integrative movement practices (such as recess, Physical Education, and free play) on a student's academic achievement (Josef-Bishop, Singer, & Zigler, 2004). After observing the Waldorf teachers integrating movement into their daily teaching practices with intention and conviction, this researcher questions why past educational research has been narrowly focused on sedentary and non-integrative approaches to the use of movement rather than focusing on movement-rich curricula such as the Waldorf approach. Such research is essential to a comprehensive conversation on the effects of movement on learning for the young child.

Stillness as a divergence from movement.

Rather than movement being imposed upon or integrated into a sedentary learning environment (as many past educational studies have reflected), this study revealed the effects of imposing or integrating stillness into a movement-rich curriculum. In the Waldorf classes observed, stillness became a significant divergence from movement, which was intended to help the child gain mastery over their own physical body and will forces, their ability to choose how to interact with others and their environment and, eventually, to aid them in focusing their attention and energies for more sedentary styles of learning. The Waldorf teachers were not striving to eradicate stillness from the students' learning experience, but were creating intentional rhythms of movement and stillness in order to help children learn the value of stillness and reap its benefits. This approach demonstrated by the Waldorf teachers alluded to the potential value of a curriculum in which intentional movement and intentional stillness are interwoven.

Future Research

This study was limited in scope, focusing only on one Waldorf-based early childhood program at a private charter school in Phoenix, Arizona. All early childhood and specialty teachers at DMS were not able to fully participate in the study. The study was intended to observe and interview teachers only and did not include observations and assessment of student progress or outcomes except for the researcher's informal observations of student actions, responses, and behavior.

Based on the limited scope of this study, recommendations for future research include:

1. A cross sectional study between multiple early childhood programs within Waldorf or Steiner school settings (private, charter and public). Although the curriculum in each school stems from Rudolf Steiner's educational philosophy, the individuals implementing the day-to-day curriculum and their beliefs, personal philosophies and requirements to attain state standards may influence the variances in movement practices between each school and each classroom. However, the core philosophy and methodology shared by teachers in Steiner/Waldorf schools may also reveal correlations by which a Waldorf-based movement methodology might be discerned and utilized as a model for integrative movement practices in the early grades.
2. A larger sample of teachers and schools to be studied. The small sample from this study of results shows common threads, transparent and unspoken, revealing the teachers' shared philosophies and beliefs. The larger sample may reveal different commonalities in curriculum threads and philosophical beliefs.
3. In connection to the teachers' implementation of curriculum, the effects on the students may be studied. Studying the effects of movement on present and past student body members of Waldorf/Steiner schools in a longitudinal study may reveal how movement-based learning affects the students' physical, social, emotional, intellectual and soulful development

both short- and long-term. In particular, how the movement-based Waldorf curriculum aids a student to embody stillness – that is, how a child’s experience and relationship to movement facilitates stillness may be studied. Studies might also include how encouraging early childhood learners to embody stillness may or may not relate to the early childhood self-regulation theory.

4. Observing how implementing the movement-based learning embodied in the Waldorf curriculum into mainstream classrooms may affect children in early childhood programs, especially in regard to integrating Special Needs curriculum into the daily classroom rhythm.

While past research has noted the importance of movement in cognitive processing and academic learning, research has been based predominantly upon quantitative research focused on outcomes related to academic achievement (Tomprowski, Davis, Miller, & Maglieri, 2008). Past theorists, including Rudolf Steiner and Jean Piaget, based their beliefs about the connection between movement and thinking/learning on their observations and intuitions concerning how children learn. In this study, the Waldorf teachers noted the training and beliefs that motivated their movement-rich approach to teaching; however, no teacher articulated clearly to this researcher how or why the specific movement methods chosen resulted in the outcomes they professed would result for their students. With our scientific capabilities today to research the body-mind connection, a needed research emphasis includes not only that movement has a

positive or negative effect on learning for the young child, but how and why movement effects a child's cognitive processing and academic learning.

This study does not draw conclusions related to how or why movement may or may not positively impact learning for the young child. However, the study does reveal a plethora of practical methods for integrating movement into all aspects of an Early Childhood curriculum. If the DMS Early Childhood program is a reflection of the larger Waldorf educational approach to learning, this movement-rich curriculum is the “elephant in the room” among researchers who are scrutinizing movement's effect on cognitive processing and academic learning. Waldorf-based education is an unexplored frontier for educational researchers of the future – an educational frontier worthy of attention.

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APPENDIX A

RUDOLF STEINER'S THEORY

The Educational Theories and Indications of Rudolf Steiner

In 1919, Emil Molt, the director of the Waldorf-Astoria cigarette factory in Stuttgart, Germany, asked Rudolf Steiner to design the first Waldorf School based on Steiner's views of human development. Molt and the workers at his factory "... decided that the time was ripe for a practical move," to address the issue of "faulty and neglected education, that led the world into the most destructive human act" of our world's history at that time – World War I (Childs, 1996). Molt and his workers invited Rudolf Steiner to lecture on what the future of education should entail. From that point forward, Rudolf Steiner gave over five hundred and twenty-five lectures on Education from September 1919 until his death in March 1925.

Despite Steiner lecturing prolifically over a six-year period – giving the equivalent of a lecture every five days – Steiner wrote only one book on education: *The Child in the Light of Anthroposophy*. This book was published twelve years prior to the first Waldorf School opening in Germany (Noble, 1991) & (Childs, 1996). Through his lectures, practical lessons given to the teachers, and serving as teacher/school supervisor, Steiner formulated, distilled and enacted the human development theories that support Waldorf Education today. In his book, *The Education of the Child*, and in his extensive lecturing (both of which have been translated into English from German) Steiner outlines his views of child development (within the larger framework of his views on human development), as included in the following sections (Steiner, 1907). Interestingly, each of Steiner's stages of life outlined here can be overlaid upon one another.

Themes of the first three years of life are revisited in the two-and-a-half year periods and in the seven-year epochs. Likewise, the developmental themes of the first twenty-one years are revisited in the twenty-one year cycles from twenty-one to forty-two, and from forty-two to sixty-three.

Life-Stage Theories

The first three milestones: walking, speaking and thinking.

In 1923, two years after the Waldorf-Astoria factory school opened, Steiner offered the Swiss Teacher's Course in Dornach, Germany for the Waldorf-Astoria teachers and others interested in starting Waldorf Schools in Switzerland. The focus of the five-day course was Steiner's theories on the first three milestones of life: walking, speaking and thinking.

In his first lecture of the course, Steiner quoted German writer, Johann Paul Friedrich Richter who said, "In the first three years of his life a man (sic) learns more than in his (sic) three years at university." Steiner agrees and states that, "even though we were to protract the university years indefinitely, the result would be less than the wisdom the child acquires in learning the statics and dynamics of walking and in acquiring the facilities of speaking and thinking." (Steffen, 1923)

Steiner viewed walking for the infant (around age one) as the act that enables the infant to come into contact with the outer world. Such contact makes it necessary for a child to engage in communication and language with other human beings. According to Steiner, movement and speech are closely aligned, speech "arising from the human being as a whole." While the newborn infant's

limbs flail about in response to others' actions, the growing baby uses their limbs – both arms and legs – in an increasingly harmonious fashion that allows the child to develop speech from within the child's physical being. Steiner believed that from the movement of the legs, the rhythmic element of speech is developed, and from the movement of the arms and hands, the thematic aspects of speech arise (Steffen, 1923).

Once a child has mastered the equilibrium of the limbs (arms in relationship to the legs) to bring stability to the head, the child works on mastering the beginning stages of language development – learning to form full and complete sentences beginning around age two. According to Steiner, as the child gains upright stability of the head, growing dexterity and mobility, the larynx is free to do its work (Steffen, 1923).

With the awakening of speech and the forming of the larynx, Steiner believed that verbal communication and thinking take root. He identified words as the means for a child to connect past experiences with present sensory input and to help the child form “pictures” or memories of the “happenings of the outer world.” Thus, through language and speech, independent thinking is ignited around age three (Steffen, 1923)

The two-and-a-half year periods.

Once the founding Waldorf School in Stuttgart had completed its first two years, questions from the founding teachers to Rudolf Steiner began to center around the education of the child in the first seven years of life. Albert Steffen, Steiner's lecture recorder, notes that Rudolf Steiner often stressed that during “the

earliest years of childhood things happen, which are the deciding factors in later life.” (p. The Waldorf-Astoria teachers wanted to understand a child’s life prior to entering formal schooling (in grade one) (Steffen, 1923).

Over the course of several lectures, Steiner described for the teachers three two-and-a-half-year periods of life for the young child between birth and age seven-and-a-half:

First period (birth to two-and-a-half).

The first period – from birth to two-and-a-half – is a period connected to the growth and stability of the child’s head. Steiner (1923), noted that, in the first period of a child’s life, the formation of the head is the body’s main focus. According to Steiner, though the child’s physical head shape, size and features are inherited from the parents, the child brings “forces with it from pre-natal existence,” (p. 41) which are further shaped through acts of imitation as the child “mimics” the adults around them.

The forming of the head is “most intimately connected with the development of self-confidence within individuals for later life.” (p. 41) Steiner points out that the child at this stage does everything nearly one hundred percent out of their will, a trait that builds future confidence. Although the adult serves as a model of action/will for the child, a child cannot merely adopt the adult’s will as its own. Steiner noted that, as a child mimics the adult’s acts of will, they simultaneously repel the adult’s will in imposing outer guidance on them.

By age two-and-a-half, the head has completed approximately seventy-five percent of its growth in reference to shape and form (Doyle, 2009). As the

development of the head slows, a child's physical growth becomes more focused on the chest/trunk, or more specifically, the rhythmic system.

Second period (two-and-a-half to five).

The second two-and-a-half year period spans from two-and-a-half to five – when a child develops the rhythmic system, which includes blood circulation and breathing. Steiner indicated that once the physical head is predominantly formed, the child's development becomes more focused on the internal organs of the chest/trunk.

Building on a child's imitative nature in the first two-and-a-half years of life, from two-and-a-half to five, the child becomes a "perfect mimic." So, it is the adult's task to make oneself worthy of imitation. In this regard, Steiner stressed that the child during this period should be left to self-educate through their natural tendency to mimic the adult caregiver. Discovery through play that involves many practical life situations is what Steiner laid out as the path to a young child's self-education. As the child's developing circulatory and respiratory organs stabilize their blood flow and breathing, the child also builds their capacity to access memory by learning and retaining moral reasoning and imagination.

Steiner asserts (1923), "During this epoch the child by no means is in a position to take in ideas which bear on the moral life..." (p. 42) He goes on to say, "Underneath the veil of materialistic habits of thought, we (adults) have the faculties of soul and spirit through moral imagination." (p.42) An adult's moral imagination gives rise to the intuitive ability to see a child's moral intentions. Steiner stressed that it is the adult's role in this period to carry the responsibility

of moral lessons, allowing the child to learn by example or imitation. For example, Steiner said that when a child appears to be “naughty” by using an ear-splitting yell for attention, the adult should view this yelling as a physical (bodily) reaction that will pass as the child ages. More important than asking the child to be quiet is the adult’s moral stance on how to address such a child. Steiner believed that the adult’s gestures – both inner and outer – effect a child’s choices of moral judgment in future life situations.

Steiner concluded that moral judgment requires imagination, and that imagination is closely connected with the respiratory system. Steiner firmly believed that, to foster imagination, the child needs “open-ended” toys. For example, in his lecture, Steiner created a simple doll out of a handkerchief. He compared the handkerchief doll to a painted doll with established features, noting that the latter stints a child’s imagination. He suggested that the cutting off of a child’s imagination through toys that are well-defined leave little room for creativity through imagination, and can create an irregularity in the child’s breathing. He stressed that when the child’s breathing frees itself, the imagination is allowed to flow. When a child’s blood circulation, breathing, and imagination flow freely around age five, bodily focus shifts to the metabolic and limb system in the next two-and-a-half years of life.

Third period (Five to the change of teeth).

The third period (from five to seven-and-a-half) – connected to the metabolic and limb system – is described by Steiner (1923) thus:

The child experiences a new and not hitherto apparent faculty in his (sic) soul: Belief in grown-up people and susceptibility to guidance. Up till now he (sic) has imitated. Now, little by little, he begins to obey observations, which he has grasped, a peculiarity which only achieves completeness with the seventh year. Before the fifth year only discord could result if someone said: You ought. Now gradually the child begins to recognize the educator for what he should be, namely an authority. (p. 45)

This two-and-a-half year time span frames the years of kindergarten and first grade. The child is gradually taking charge of their own actions, while simultaneously the authority of the educator plays a major role in the health and education of the child. Steiner believed the core goal of the educator is to help the child work on two of the child's faculties most relevant to learning in the early years: memory and enhancing imagination.

Steiner encouraged educators to utilize language through speech to help a child build their use of memory through imagination. Steiner noted that memory, in and of itself, is not the prominent goal. In Steiner's view, memory is a tool to foster imagination – imagination being the key element of a child's learning over the second seven-year epoch (from ages seven to fourteen).

Through the use of rhymes, songs and movement, Steiner suggested that the educator fosters the habits of memory in the child. He believed the choice of materials (toys, furniture, clothing, etc.) utilized with the child in creating such habits must be loosely formed, while movement, gestures, and patterns of action are well defined and predictable. Living movements, Steiner said, are the most effective means of freeing the child's imagination, while also creating useful physical habits for the next epoch of life.

The Periods of Human Development: Seven-Year Epochs

Gilbert Childs in his book *Education and Beyond: Steiner and the problems of modern society*, attempts to chart (see Appendix V) out Steiner's overlapping human development theories during the first twenty-one years of life. Childs divides Steiner's Human Development Cycles or Life-epochs into three seven-year periods, and applies to these seven-year periods various aspects of a child's human development related to education. Since this study focuses on early childhood, from kindergarten through third grade, Child's table has been abbreviated here (see appendix for full to contain only the first two seven-year epochs (Childs, 1996).

Table 3: Gilbert Child's Table of Main Factors

Child 7-14	Infant 0-7	Life-epoch
Soul	Body	Principle Chiefly Under Development
Rhythmic	Metabolic/Limbs	Physiological System Chiefly Employed
Dreaming	Sleeping	Appropriate State of Consciousness
Feeling	Willing	Appropriate Soul-activity
Love	Gratitude	Fundamental Mood
Beauty	Goodness	Area of Instinctive Seeking
Art	Religion	Appropriate Branch of Culture
Authority	Imitation	Appropriate Pedagogical Mode

Physical development.

Principle chiefly under development: body, soul & spirit.

Childs' table includes the principle aspects of the child under development during the first three seven-year epochs. While body, soul and spirit of the child are developing through all of the three seven-year epochs, each life-epoch focuses more fully on one of the three aspects of growth over the others. According to Steiner, life-epoch one, from birth to seven, primarily involves the development of the body, while life-epoch two, from seven to fourteen, primarily involves the development of the soul. The third life-epoch, which will not be covered here, focuses more fully on the development of the spirit.

Infant 0 – 7: body.

As pointed out in the section concerning the first three two-and-a-half year periods of life, during the first seven years, the physical body is the chief aspect of the child being developed – head, trunk and limbs. In the first two-and-a-half year period, the child learns to walk, speak and think. During the second period, the rhythmic system, involving blood circulation and breathing, is developed and brought into balance. During the third period, the metabolic system gives rise to moral reasoning and imagination, which is fostered through physical action and imitation. The child's physical body is inherited from the parents, but as a child matures, the child's body becomes its own. Through learning mastery of the body – limbs, larynx, imaginative thinking, breathing, circulation, and metabolic

processes – the child gains confidence in its physical organism, learns to navigate its immediate environment and communicate with others.

Child 7 –14: soul.

From seven to fourteen, Steiner asserted that the development focus for a child shifts from the forming of the body to the forming of the soul. Steiner believed that the soul resides within the rhythmic system – that is, the breath and blood – of the human being. Childs (1996) explains Steiner’s view of Soul as the coming together of thinking, willing and feeling in a synergistic interaction: “(The rhythmic system) is where thinking meets the forces of willing in the area of feeling.” (p. 127) Steiner refers to this synergistic interaction as “appropriate soul activity.” He believed that thinking relies upon the will (doing) in order for thinking to be active, and thinking cannot “survive” as memory unless feelings are involved. Whereas, the circulatory and respiratory systems are directly connected to the brain, a child from the ages of seven to fourteen develops their cognitive capacities in a soulful manner through engaging their will and connecting their feelings to their thinking.

Physiological system chiefly employed: metabolic/limbs, rhythmic, and nerves/senses.

Although the metabolic/limbs, rhythmic system and nerves/senses are all being developed as a child matures, Steiner asserted that each system dominates a child’s developmental focus during a particular seven-year period. During the first seven-year epoch the physiological systems chiefly employed by the child are the metabolic and the limb systems, while the second seven-year epoch employs the

rhythmic system. The third epoch, from fourteen to twenty-one, which will not be covered here, employs the nervous system and the senses.

Infant 0 – 7.

According to Steiner, the metabolic system and the limbs are the primary areas of body physiology employed by the child during the first seven years of life. Metabolism is the process that determines which substances are nutritious and which are poisonous to the body's organs. Steiner believed that the nutritional process within the young child's organs predestines the health of their physical body for future years. Steiner stressed that educators of young children must not only consider the effects of food and drink on metabolic processes, but also the effects of the content of a child's learning, the delivery of a lesson, and the activities that allow the metabolic system to maintain life for the physical body.

Just as the metabolic processes in a child's body are, for the most part, unconscious, so does the child lack a conscious intellectual awareness of how and why certain actions are called for or needed from moment-to-moment. Childs (1996) paraphrases Steiner:

(The young child before seven years old) "...is a creature of unconscious action... the child possesses no judgment, no discrimination, no anticipation in the intellectual sense; its thinking processes are asleep. It is a being of pure action, both in the sense of its alimentary (nourishment) processes and in the sense of limb movements, but its actions are involuntary for the most part (that is, asleep)... (p. 117)

Steiner proposed that as the educator creates intentional limb movements for the child through circle activities, artistic endeavors, and rhythmic daily chores, the child's unconscious thinking processes become

conscious for the child. According to Steiner, it is by developing a consciousness of limb movements that awakens the child's thinking capacities and prepares the child for further cognitive development related to the rhythmic system, which is the physiological system chiefly employed in the next seven-year epoch.

Child 7 –14.

From seven to fourteen, the rhythmic system (involving the heart and lungs) becomes the chief physiological focus for the child. Gilbert Childs' (1996) points out:

The endless energy of the child of this age is reflected in the tirelessness of the rhythmic system, in the regular beat of the heart in terms of systole and diastole, and the complementary activity of inbreathing and out-breathing (p. 138)

As with the metabolic and limb systems, thinking through the rhythmic system is also dependent upon physical movement. Movement aids breathing and balancing of the circulatory system (flow of blood to and from the heart and brain) to create a healthy body and enhance thinking capacities. Steiner encouraged educators to create lessons for their students during this period of life that promote circulation of the blood and balance in breathing in order to stimulate brain activity.

Since the circulatory and respiratory systems are both rhythmic systems, Steiner promoted the educator to design lessons for the seven to fourteen-year-old that include rhythm as a basis. In the Waldorf classroom, lessons are set up based upon the rhythms of the year and the seasons, and include weekly rhythms that incorporate a sense of breathing, in which there is a balance of active and passive

learning. The school day is planned in a rhythmic pattern that involves an “in-breath” activity being followed by an “out-breath” activity. The in-breath activities are more solitary, inner-focused, and intentional interludes of learning, while the out-breath activities are more interactive, social and informal in nature.

Appropriate soul-activity: willing, feeling and thinking.

Steiner asserted that during the first seven-year epoch, the soul-activity appropriate for the child is the assertion of the will, while in the second seven-year epoch appropriate soul-activity centers on the feeling realm. During the third epoch, from fourteen to twenty-one (not covered here), the appropriate soul-activity centers on thinking.

Infant 0 – 7.

Through soul-activities related to the will, the child accomplishes three major physical feats during the first seven years: they learn to walk, to speak, and to communicate their thinking. According to Childs (1996), Steiner stressed that training the will of the young child is not the goal. The will of the child cannot be forced into submission by the will of the adult. Steiner believed that the will of the child is shaped by “the doing of the same thing over and over again, that which is the essence of habit, custom and routine – this is the basis of all the will training.” (p. 118)

The young child, Steiner pointed out, needs a set routine, not only within the educational setting but also the home life. The dependability of a routine brings a sense of gratitude (the fundamental mood) out in the child. The educator helps the child by formulating, teaching and adjusting their own will routines. The

educator's routines work upon the child's will forces by way of rhythm and repetition.

Child 7 –14.

From seven to fourteen, feeling becomes central to the child's soul-activity. The feelings of sympathy and antipathy dominate the child's emotional life in connection to their environment, social interactions, and views on learning. Steiner describes the child within this epoch as being aesthete (having a special appreciation for art and beauty) and notes that the educator should take action in "letting the child experience both pleasure in the good and displeasure in the bad." (Childs, 1996 p.132)

In Waldorf/Steiner education, the child's feelings are nurtured by the use of arts in the pedagogy. Artistic activities help a child to integrate willing and feeling – as the child wills beauty into being through such artistic activities as watercolor painting, beeswax modeling, singing, eurhythmmy (speech through movement), drama and speech. Steiner stressed that the educator of this epoch should be prepared to move between a child's logical and illogical thinking. The second seven-year epoch (from seven to fourteen) is the preparation ground for the more intensive intellectual learning of the third seven-year epoch (from fourteen to twenty-one), in which thinking dominates the child's development.

Appropriate pedagogical mode: imitation, authority and freedom.

According to Steiner, during the first seven-year epoch the appropriate pedagogical mode of the child is learning through imitation, while in the second seven-year epoch the pedagogical mode is learning through authority. The third

epoch, from fourteen to twenty-one (not covered here), centers on freedom as the predominant pedagogical mode of the child.

Infant 0 – 7.

Steiner stressed how imitation plays a major role in the education of the child in the first seven-year epoch. Steiner said:

Children... do not learn by instruction or admonition, but through imitation. The physical organs shape themselves through the influence of the physical environment... If before their seventh year children see only foolish actions in their surroundings, the brain will assume the forms that adapt it to foolishness in later life. As the muscles of the hand grow firm and strong through doing the work for which they are suited, so the brain and other organs of the physical body of human beings are guided into the correct course of development if they receive the proper impressions from their environment (Steiner, 1907, p. 19).

The mode of learning through imitation for the young child is built upon the adult's physical gestures, social/emotional states and cognitive actions. The child's perceptions of their environment are keen – an environment that includes other's actions (adult and child), the inner gesture of the adult, and the physical space the child experiences.

Child 7 –14.

As the adult shifts the course of learning from the pedagogical mode of imitation to the mode of authority, the teacher (adult) does not merely work out of an authoritarian method of teaching.

“Rather, each child's response to authority must be an inner process, a voluntary submission; teachers should not adopt a domineering manner or tyrannize their pupils with threats or punishment or other sanctions...(yet find) methods and techniques ...grounded in the artistic realm” (Childs, 1997 p.136).

During the second epoch, the mode of learning through imitation has not completely disappeared for the child. Imitation is now combined with the child looking to the authority of the adult to guide their learning process. The child grants authority related to decisions and leadership to the adult (teacher). As the child seeks the guidance of the adult authority, so the teacher takes on the responsibility of upholding the power and authority granted to them by the child without abusing that power by becoming overly domineering.

Moral development.

Appropriate state of consciousness: sleeping, dreaming and waking.

According to Steiner, during the first seven-year epoch the appropriate state of consciousness of the child is sleeping, while in the second seven-year epoch the appropriate state is dreaming. During the third epoch, from fourteen to twenty-one (not covered here), the child's appropriate state of consciousness is that of waking.

Infant 0 – 7.

In addressing a child's state of consciousness in the first seven years of life, Steiner brought to light his own struggles when working with children he tutored. As a live-in tutor for the Specht family during 1884 -1890, Steiner notes his understanding that a young child lives in the consciousness of sleep. While working with the youngest student of the four, Steiner recounts:

After I had come to know the child, I felt certain that an education adapted to this particular constitution of soul and body would awaken his sleeping capacities... I had to find access to a soul,

that was in a kind of sleeping condition, and that had gradually to be brought to master the bodily functions (Steiner, 1907, p. xi).

While John Locke deems the newly born child's mental state as a *tabula rasa* (blank slate) of consciousness, Steiner refers to this "tabula rasa" state as the sleeping consciousness of the child. In paraphrasing Steiner, Childs puts forth the notion that the child's thinking process is asleep, yet the child's consciousness is ready to receive everything in its environment. Steiner referred to the child as a sense organ, as Childs explains (1996): for the child "(e)verything is taken up uncritically and unerringly, from the typical gestures of its parents and significant others to their very accent and intonations of speech." (p. 119)

Child 7 –14.

Dreaming is the state of consciousness dominating the second seven-year epoch. The "dreaming" state of consciousness is inherent in the feelings of the elementary aged child – a time of life when the child waxes and wanes between antipathy and sympathy. While in the dreaming state, a child works on their abilities to control their swinging feelings in reference to thinking. This swinging from one end of the spectrum to the other (in regard to antipathy and sympathy) pushes the child's consciousness to move from subjective views of learning toward objective views of understanding. Childs (1996) points out how feelings of antipathy, common for this age group, draws the child out of their dreamy consciousness toward a more objective perspective. He writes:

The wide-awaking propensities of our making judgments...clearly engage our feelings of antipathy to, and the placing of ourselves at

a certain distance from, the object or matter in question. We are inclined to address cold reason rather than allow ourselves to wallow luxuriously in our daydreams (P. 131)

Fundamental mood: gratitude, love, and duty.

During the first seven-year epoch, Steiner asserts that, the fundamental mood of the child is gratitude, while in the second seven-year epoch the fundamental mood is love. During the third epoch, from fourteen to twenty-one (not covered here), the child's fundamental mood is related to duty.

Infant 0 – 7.

Though the child may not overtly display the fundamental mood of a particular seven-year epoch, the moods dominate the child's inner life. In the first seven-year epoch from birth to seven, the fundamental mood of gratitude is experienced. All that a young child gains from its surrounding environment, significant others, and activities, is a gift. Possessing limited knowledge and experience, a child relies upon its environment and the contribution of others to guide the child's path in learning. From this dependence, an inward gesture of gratitude is fostered in the child.

Child 7 –14.

In the elementary school years, the fundamental mood shifts from gratitude to love – love of others. Childs (1996) describes this love as “a sort of all-embracing innocent kindness for their fellow-beings and the world.” (p.130) Steiner asserts that love of this sort has been built from the devotional love of the infant. He claims that the “innocent kindness” experienced in the child from seven

to fourteen can help to assure that the love one finds in adulthood is formed in a correct manner.

Area of instinctive seeking: goodness, beauty, and truth.

According to Steiner, the educator has the grand task of guiding a child through three instinctive stages of seeking. Instinctive seeking for the child in the first epoch, from birth to seven, involves recognizing the goodness of life and people. The second year epoch (seven to fourteen) focuses on recognizing beauty, and the third epoch (fourteen to twenty-one, not covered here) focuses on a seeking of truth.

Infant 0 – 7.

Steiner believed that a child's instinctive seeking from birth to age seven involved an interest within the child of what is morally "good" or "bad." The educator's role during this epoch is one of guiding the child to view goodness as beautiful and badness as ugly, with an overwhelming focus on goodness. In his book *The Education of the Child*, Steiner writes:

Again, the moral sense is also being formed in children during these years through the pictures of life placed before them, through the authorities whom they look up to—this moral sense becomes assured if children, from their own sense of beauty, feel that the good is beautiful, and also that the bad is ugly (Steiner, 1907, p. 35)

Steiner encouraged educators to create and adjust the learning environment and their own inner gestures and motivations to allow the child to distinguish the good in human beings, life and the world.

Child 7 –14.

The adult's task of revealing the beauty of the world is the goal in the second seven-year epoch. If surrounded by beauty during the first seven years of life, the child from seven to fourteen will inherently seek out the beautiful. Steiner asserts:

If a child's eye sees only beautiful things until the age of seven, the eye will develop so that it retains a feeling for beauty throughout life (Steiner, 1907, p. 44).

The task of the adult is to help create connections for the child between the beauty of the world and the beauty they instinctively perceive within themselves, others. The predominant means to do so is through artistic offerings and endeavors.

Appropriate branch of culture: religion, art and science.

According to Steiner, during the first seven-year epoch the appropriate branch of culture for the child is that of religion (in a broadly spiritual context), while in the second seven-year epoch the branch of culture most appropriate for the child is that of art. During the third epoch, from fourteen to twenty-one (not covered here), the branch of culture appropriate for the child is science.

Infant 0 – 7.

Childs (1996) paraphrases Steiner's thoughts in regard to the broadly spiritual connotations of a child's "religion" during the first years of life. He points out that:

Although not expressed consciously...it is clear from the imitative processes alone that the infant is as devoted to its environment as ardently as the most fervent worshipper of any deity (p.120)

Steiner points out a stark difference between religion as an institution and religion as a frame of consciousness. He notes that, “It is... particularly bad if children prematurely determine their religion and draw conclusions about the world.” (Steiner, 1907, p. 46) Childs (1996) adds, “The religious virtues of unremitting faith, of confidence in Providence, of trust, submission and so on are unmistakably part of the infant’s attitude to its surroundings.” (p.120)

The adult makes true religion for the child more accessible by fostering a sense of the sacred related to the environment and other human beings, and cultivating a sense of reverence in the adult’s thinking, feeling and doing. The Waldorf educator builds spiritual substance for the child through daily, weekly, seasonal and annual rituals and celebrations. Childs (1996) describes the seasonal and annual festivals in the Waldorf School as being “celebrated with an almost solemn intensity.” (p. 121) Although serving as an everyday priest, of sorts, for their students can be a formidable task for Waldorf teachers, Childs (1996) notes that, Steiner believed that taking up this task not only made the teachers better in their abilities to teach, but also helped to “fill them with charitable feelings for humanity.” (p. 121)

Child 7 –14.

Once again, paraphrasing Steiner, Childs eloquently connects art as the branch of culture for the child in the second seven-year epoch. Childs (1996) proclaims:

Art of whatever genre appeals to the feelings, to the individual’s sympathies and antipathies, whatever they may be. Art is the

arouser par excellence of the intellect, of the powers of cognition and ideation (p. 134)

The core means on which the curriculum in a Waldorf classroom is conveyed is through art. Steiner noted that the teacher should be an artist – not (necessarily) a trained artist, but willing to undergo training prior to and during their teaching.

In imagining the future of education, Steiner stressed that the renewal of education is dependent upon religion (which fosters goodness in a broadly spiritual sense), art (which gives rise to beauty) and science (which illumines truth). Steiner believed that the universal truths inherent in each of these realms overlap and build on one another.

APPENDIX B

INTERVIEW QUESTIONS

Interview questions for teachers participating in study

Training/History/DMS:

1. What inspired you to become a teacher?
 - a. Waldorf Teacher?
2. What training have you taken?
 - a. Degrees?
 - b. Waldorf?
 - c. Intensives or summer courses?
 - d. Workshops and/or conferences?
3. How did you become connected with Desert Marigold School (DMS)?
4. How long have you been at DMS?
5. What grade levels have you taught at DMS?
 - a. Other educational settings?
6. How long have you been teaching?
7. Tell me your story of connecting with DMS.
8. How is your personal biography (life history, other work, parenting, etc.) related to your choice to be a Waldorf teacher?

Movement Connections Past and Present:

1. What childhood memories do you have of physical movement (games, exercises, activities, etc.) occurring within your childhood schooling experiences?
 - a. With your classroom teachers?
 - b. Physical Education?
 - c. Specialty classes: Music, Art, etc.?
 - d. Other?
2. In reference to number one, have you ever used any of the physical movements you experience in your schooling as a child (games, exercises, activities, etc.) in your own teaching?

- a. Examples/Describe.
3. What role does physical movement play in your design and delivery of your current classroom curriculum?
4. Why do think physical movement is important for the young child (Age 4 to 9)?
5. What is your relationship to movement personally?
 - a. In the classroom?
 - b. In your personal time?
 - c. With family or friends?
6. What types of movement do you enjoy?
7. What types of movements are difficult or uncomfortable for you?
8. How do you find a healthy balance with movement in the classroom?
 - a. What if one or more students get “too loud”?
 - b. What if one or more student does not participate?
 - c. What if one or more students become too active?
9. Describe one of your most meaningful movement experiences in the classroom?
 - a. As a teacher?
 - b. As a student?
10. Describe one of your most unpleasant movement experiences in the classroom?
 - a. As a teacher?
 - b. As a student?

Teaching:

1. Describe your experience as a teacher within the Waldorf classroom setting.
 - a. Describe to me a picture of your planned movements over the course of a day in your classroom.
 - b. Describe to me a picture of how you plan for your daily curriculum in ways that involve or include movement.

- c. Describe to me a picture of how you prep for the above curriculum that involves or includes movement.
 - d. Describe to me a picture of how you implement the above curriculum that involves or includes movement.
- 2. How important is intentional physical movement for the young child?
- 3. What skills do you feel are important for a teacher to have in order to bring movement effectively to young children?
- 4. How does movement help the young child?
 - a. Physically?
 - b. Socially/Emotionally?
 - c. Cognitively?
 - d. Spiritually?

Teaching Sources:

- 1. Given a participants training background, I will ask one or more of the following:
 - a. In your training program(s) (non-Waldorf), what tools or resources did you gain to help you incorporate movement in your curriculum? Include: name of program, length of study, focus, and certification (if any).
 - b. In your undergraduate degree program (non-Waldorf), what tools or resources did you to help you incorporate movement in your curriculum? Include: name of program, length of study, focus, and certification (if any).
 - c. In your Waldorf certificate training program, what tools or resources did you gain to help you incorporate movement in your curriculum? Include: name of program, length of study, focus, and certification (if any).
 - d. In your Waldorf seminars, or conference, what tools or resources did you gain to help you incorporate movement in your

curriculum? Include: name of program, length of study, focus, and certification (if any).

2. Are there movement exercises, attention getters, transition helpers, etc.... that you gained from other teachers, administrators or educators over your years of teaching that you utilize or have utilized in your teaching?
 - a. Sources (working colleagues, distant colleagues, administrators, etc.)
 - b. Of the individuals that did share ideas or materials, do you continue to exchange ideas or materials at this time?
3. Describe how you find your curriculum resources in reference to implementing or creating movement exercises or games for the classroom beyond what you have gained from your training.
 - a. Library – what type of resources?
 - b. Internet?
 - c. Your own original ideas?
 - i. What do take into consideration when creating the materials for implementing movement?
 1. Child's physical development and needs?
 2. Child's social/emotional development and needs?
 3. Child's cognitive development and needs?
 4. Child's spiritual development and needs?
 - d. Other?

Conclusion

Is there anything else you would like to share with me in reference to your beliefs, experiences, ideas or implementation of movement in your teaching?

APPENDIX C

LETTER TO SCHOOL

October ____, 2011

Study: Taking Action! The Effects of Meaningful Movement for the
Kindergartener Through Grade Three Learner

Hello Desert Marigold Early Childhood Staff,

My name is Andrew Darian and I'm a graduate student under the direction of Professor Elaine Surbeck in the Division of Education Leadership & Innovation at Arizona State University. I am conducting a research study to document the underlying intentions of a Waldorf early childhood program in relationship to integrative movement and its connections to learning for the kindergarten through grade three learners. The study will focus on curriculum development, teacher preparation (training), the teacher's use of movement throughout the school day, and their integration of daily movement rhythms and rituals in teaching methods and practices.

I am recruiting teachers for the following:

1. Observations once a week in your classrooms for fifteen weeks: by (co-investigator, Andrew Darian)
2. Your participation in two formal (one to one-and-half hours in length) interviews: one prior to observing (October 31, 2011 – November 11, 2011) and one after the observation cycle is complete (February 24, 2012 – March 2, 2012)
 - a. *With your permission, I would like to record the interviews.*
 - b. *The interviews will be recorded on a digital recorder. They will be stored on the co-researcher's computer.*

c. All audio recording will be destroyed upon completion of the study

3. Semi-informal interviews (conversations)
 - a. To take place after various observations
 - b. Time and space permitting in connection to your schedule.
4. The study will take place over a nineteen-week time frame.

Your participation in this study is voluntary. If you have any questions concerning the research study, please call me at (602) 315- 8481.

Thank you in advance for your time,

Andrew Darian (Co-investigator)

APPENDIX D
LETTER TO TEACHERS

Arizona State University

Researcher: Andrew Darian (Early Childhood)

Principle researcher (ASU Supervisor): Elaine Surbeck

Study:

**Taking Action! The Effects of Meaningful Movement
For the Kindergarten Through Grade Three Learner:
A Case Study of a Waldorf Education Early Childhood Program**

Date: _____

Dear _____:

I am a graduate student under the direction of Professor Elaine Surbeck in the College of Educational Leadership & Innovation at Arizona State University. I am conducting a research study to understand the underlying intentions of a Waldorf Early Childhood program in relationship to integrative movement and its connections to learning for the Kindergarten through Grade Three learner. The study will focus on curriculum development, teacher preparation (training), the teacher's use of movement throughout the school day, and the teacher's integration of daily movement rhythms and rituals in the teaching methods and practices.

I am inviting your participation, which will involve:

- (1) Two semi-informal structured interviews: one prior to observing the classroom setting and one after all observations is completed.
- (2) Spontaneous conversational interviews (when space and time is available)
- (3) The observations will take place once a week for fifteen weeks, ranging from sixty to one-hundred twenty minutes (dependent on your schedule)

- You have the right not to answer any question, and to stop the interview at any time.
- Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty.
- By participating in this study, this researcher believes Waldorf Education, as a theory of teaching will be more transparent to the “mainstream” field of education. The knowledge of Waldorf Education’s theories, methods and results may become more accessible to other Early Childhood practitioners.
- There are no foreseeable risks or discomforts to your participation.
- The results of this study may be used in reports, presentations, or publications.
- I would like to audiotape the two structured interviews. The interview will not be recorded without your permission. Please let me know if you do not want the interview to be taped; you also can change your mind after the interview starts, just let me know.

If you have any questions concerning the research study, please contact the researcher Andrew Darian (email: adarian1@mac.com Ph# 602-315-8481 **OR** Elaine Surbeck email: esurbeck@asu.edu PH# 480-965-6034). If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788. Please let me know if you wish to be part of the study.

APPENDIX E

GILBERT CHILD'S CHART OF STEINER'S PHILOSOPHY OF EDUCATION

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EDUCATION AND BEYOND

Actualities concerning					
Life-epoch	Principle chiefly under development	Physiological system chiefly employed	Appropriate state of consciousness	Appropriate soul-activity	Fundamental mood
	Infant 0-7	Body	Metabolic/limbs	Sleeping	Willing
					Sympathy
	Child 7-14	Soul	Rhythmic	Dreaming	Feeling
				Antipathy	Love
				Thinking	Duty
				Waking	
				Nerves/senses	
				Spirit	
				Adolescent 14+	

Table of main factors

On the extreme left of the Table appear the three main life-stages of the child, and these are followed by thirty-three (3 x 11) factors in two sections. The first twenty-four (3 x 8) deal with the actualities concerning Steiner/Waldorf education for all children up to Class 12. The following nine (3 x 3) deal with potentialities concerning adult society.

The Table has been compiled by reference to Steiner's indications, but its form and presentation are my responsibility entirely.

TABLE OF MAIN FACTORS

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child education			Potentialities concerning society		
Area of instinctive seeking	Appropriate branch of culture	Appropriate pedagogical mode	Appropriate societal attribute	Main "state" of society	Appropriate ideology
	Goodness	Religion	Imitation	Fraternity	Economic
	Beauty	Art	Authority	Equality	Political (Legal/rights)
	Truth	Science	Freedom	Liberty	Cultural (Spiritual life)
					Individualism
					Democracy
					Socialism

Table of main factors

On the extreme left of the Table appear the three main life-stages of the child, and these are followed by thirty-three (3 x 11) factors in two sections. The first twenty-four (3 x 8) deal with the actualities concerning Steiner/Waldorf education for all children up to Class 12. The following nine (3 x 3) deal with potentialities concerning adult society.

The Table has been compiled by reference to Steiner's indications, but its form and presentation are my responsibility entirely.

APPENDIX F
DOCUMENTS COLLECTED

First Grade Assessment

First Grade Assessment Form

Developed for use with the Red Queen assessment story by Valerie Poplawski, Celia Riahi, and Randi Stein, Hartsbrook Waldorf School, Hadley, MA (January 2007)

✓ = yes X = no

Today's Date _____

Child's Name _____

Child's Birth Date _____

Interviewing Teachers _____

Other Child _____

General Observation/Impression:

Large headed? _____ Small headed? _____

Cosmic? _____ Earthly? _____

Fantasy rich? _____ Fantasy poor? _____

Enters the session (circle appropriate descriptor)

Confidently, eagerly? _____

Shyly, reluctantly? _____

Relaxes and becomes more animated through session? _____

	Yes	No	Comments
Physical Indicators:			
1. Appearance of 6 year molars?	_____	_____	
2. Loosening or loss of baby teeth?	_____	_____	
3. Hand reaches over head to other ear?	_____	_____	
4. Visible waist indentation?	_____	_____	
5. Elongation of neck?	_____	_____	
6. Visible joints (knuckles and kneecaps)?	_____	_____	
7. Arch in foot?	_____	_____	
8. Individualized facial features?	_____	_____	
1. Handshake—separate thumb from fingers?	✓	✗	
Offer correct hand (R to R)?	_____	_____	
Reach out confidently?	_____	_____	
Extend hand shyly, uncertainly?	_____	_____	
1. Handshake (warm? cold?): _____			
2. Listening to Story (attentive, restless, fidgety, dreamy, other): _____			

rec. name 1st 2nd
friends names

Dominance		Yes	No	Comments
2. Eye—which eye views through telescope arranged <u>horizontally</u> (3 trials)				
Hand	Eye			
L/R	L/R			
L/R	L/R			
L/R	L/R			
Which eye sights through hole in card?		L	R	
3. Ear—which ear used to listen to sea shells? (3 trials)				
Horizontal:	Hand:	L/R	L/R	L/R
	Ear:	L/R	L/R	L/R
If vertical midline retention is suggested, test again in vertical position:				
Vertical:	Hand	Ear		
	L/R	L/R		
	L/R	L/R		
	L/R	L/R		
Positional words				
3. Can open and shut a zipper?		—	—	
4. Can button?		—	—	
5. Can cut with scissors along circle?		—	—	
Describe anything notable:				
6. Can tie a knot or bow (circle which)?		—	—	
		Yes	No	Comments
Walk in cross pattern (opposite arm, leg)		—	—	
Can gallop?		—	—	
Which foot leads?		L	R	
Can shuffle sideways?		—	—	
More able to one side than the other?		—	—	
More able side?		L	R	

4. Ball:

<u>Large Heavy Ball</u>	<u>Large Felt Ball</u>	<u>Small Ball</u>
2 Hands-Toss _____	2 Hands-Toss _____	2 Hands-Toss _____
Catch _____	Catch _____	Catch _____
	Other Hand _____	Other Hand _____
	Kick _____	

R/L
R/L
R/L

5. Bean Bag: (gross motor, proprioception)

Toss _____	Catch _____	Hand-to-hand _____
Above/below _____	Around body _____	Under/over leg _____
Balance on head _____		

	Yes	No	Comments
7. Eye movement—Eyes track smoothly?	_____	_____	
Eyes evidence jerkiness?	_____	_____	
Eyes overshoot?	_____	_____	
Circle appropriate descriptors:			
Jerky eye movement			
Watery eyes			
Excessive blinking			
Moves head instead of eyes			
Complaints of strain or tiredness			
Convergence—eyes pull together to follow target coming close to the nose? (allowing 10 trials of bringing puppet to within 3 in. of the nose)			
Eyes do not pull together?	_____	_____	
One eye non-converging?	_____	_____	
Which eye?	L _____	R _____	
Number of successful trials?	_____	/10	
- <u>Number Correct</u>			

7. Body Geography: (midline)

Touch: Head _____ Shoulders _____ Waist _____
Knees _____ Toes _____ Elbows _____

8. Queen's Salute: Hand to opposite ear _____

Does child know which is the Right Hand? Y/N

9. Bridge: (balance)

Walking over plank (Golden Bridge) _____ then rope (Silver Bridge) _____
fast/s low

10. One Foot Balance:

Eyes open L _____ R _____
Eyes closed L _____ R _____
Speaking L _____ R _____ arms crossed

11. Jumping:

Together forward _____ One foot lags _____

12. Bunny Hop: _____

13. Hopping on One Foot: (gravity, balance, limb independence) L _____ R _____

14. Skipping: (levity, rhythm)

Rhythmical _____ Off the ground _____ Forward _____

15. Crawling:

Contralateral _____ Homolateral _____
Drags legs _____ Other _____

16. Jumping Rope: (levity, rhythm) _____

17. Primitive Reflexes: show them the position and give verbal instruction only—we are not teaching how to do movement

Lion: Symmetric Tonic Neck Reflex: (do arms or legs bend when they turn head? is there freedom of movement?)

Eagle: Tonic Labyrinthine Reflex: (can they get off the ground, legs bent, hold to count of...?)

5. Can follow a sequence of movements, imitating the teacher's gestures:
Touch top of head

R hand across to L shoulder
R hand on R hip

Yes No Comments

L hand on R ear
L hand on R hip

Touch knees
Touch toes

Can the child follow consistently, whether mirroring or reversing?

Mirrors movements?

Reverses movements?

— —

— —

6. Directionality: Does the child demonstrate knowledge of R and L sides?

— —

7. Knows R hand?

Ask "How do you know?"

— —

DEXTERITY:

1. Rotate thumb around each finger individually, then oppose thumb and each finger.
of oppose-touch

"Birdie flies around the tree
And lands in the nest so quietly."

Can do with dominant hand?

L R
index middle ring little

Which fingers can?

With non-dominant hand?

L R
index middle ring little
L R

Which fingers can?

Better with which hand?

2. Can rotate a "raspberry" bead or marble between thumb and index finger?

Between thumb and other fingers?

— —

3. Can open and shut a zipper?

— —

4. Can button?

— —

5. Can cut with scissors along circle?

— —

Describe anything notable:

6. Can tie a knot or bow (circle which)?

— —

How many
Animals
can you
name?

##

18. Walking up and down steps, benches or stool (dominant foot first?): _____

19. Memory: (red flag with blue bird) _____

20. Sea Serpent: (bean bag second time)
Above/below _____ Around body _____ Under/over leg _____

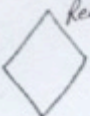


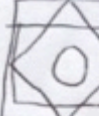

21. Water: (spatial orientation, proprioception)
Carrying _____ Pouring _____ Noticing _____

22. Queen's salute: _____

23. Bowing: (horizontal midline) Limbo _____
Bending from knees: _____ or bowing from waist: _____
Cut with scissors _____ tongue? grip? _____

24. Does the child know:
Colors _____
Subtraction (e.g. $5-2=3$) _____


25. Pencil grip: (fine motor) _____
How to write his or her name _____
How many letters in name _____

26. Could he or she copy:
a. ☐ ☐  Red  Blue  Green 
b. 

Show direction of drawing _____
Bolder than above + behind back

27. Jump, Clap, Speak: _____ Counting up to 10 then 12
then both together

28. Drawing:
House _____ Tree _____ Person _____
(order: 1, 2, 3)

Ⓐ  T-draws dots Student

Ⓑ T- "Take out Red, Blue + Yellow.
"Pick 2 other colors"
* With T-Takes some away
Puts them back

"I salute
you children"

"Yes, but
first there
are a few
more tasks."

Block
clayons

29. Comments:

General Appearance/Proportion, Health _____

Dentition _____

Quality of Movement _____

Speech _____

Following Instructions _____

Cooperation _____

Attention _____

"W" Sitting on Floor (soft sign of retained reflexes) _____

Other Comments _____

LISTENING AND SPEAKING:

1. Speak the following phrases to the child and have him repeat as spoken. Circle any omitted words or incorrect articulations:

The fat cat in the tree / ran to the top / and then hopped on a wall. / From there / the cat leapt to the ground to go home. / On the way, / the cat fell in the well. / Ding, dong, dell. Pussy's in the well.

Child could repeat each phrase? — —

3. Can the child repeat clapping rhythms? Offer 5-10 patterns of increasing complexity.

Accurate always? — —

Correct rhythms but not number? — —

Successful on easy patterns? — —

Loses pattern or sequence on hard? — —

4. Can follow a sequence of verbal directions—teacher gives all three directions before the child can begin.

Yes No Comments

Child can wait to listen? — —

Begins impulsively? — —

Hop to the door

Hop to the door

Skip to me

Run back to me

Clap your hands

Touch your head

Turn around once

Stamp your foot

Wink one eye

Climb onto the chair

Rub your tummy

Say your name

6. Animal naming: (Gesell item from Stanford Binet) Say to the child: "I bet you know the names of many animals. Let's see how many you can name. I'll tell you when to stop." Teacher can casually time one minute on wrist watch or on a stop

19

Arizona State Kindergarten Standards Addressed

Arizona State Academic Standard Based Kindergarten Objectives

Student: _____ D.O.B. _____ Assessment Date: _____ **S DV NE**

Language Arts: Reading

Student identifies elements in a story, i.e. characters, facts or events

Student can rhyme

Student can recognize his/her _____ st name / Last name _____

Student can correctly recognize letters of the alphabet (upper case)

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Student can recognize classmates names

Student can recognize some high frequency words

Student's orientation when looking at a book is correct (i.e. right side up)

Student is able to scan left to right, top to bottom

Language Arts: Writing

Student can relate a story or other communication (draw a picture to tell a story)

Student can write his/her _____ name (without a model) / Last name (without model)

Student can write letters of the alphabet

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Student consistently writes left to right, top to bottom

Student can spell simple words

Mathematics:

Student demonstrates an understanding of number meanings and relationships

Student can count by rote: 1-5, 1-10, 1-20, 1 - _____

Student can recognize numbers in and out of order:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 _____

Student can compare, organize and sort objects according to observable attributes

Student can count using one-to-one correspondence (1 - _____)

Student can write numerals: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 _____

Social Studies

Student can describe events in the order of occurrence

Student can understand positional words (over, under, etc.)

Student can recognize symbols (i.e. national symbols such as stop signs) _____

Science:

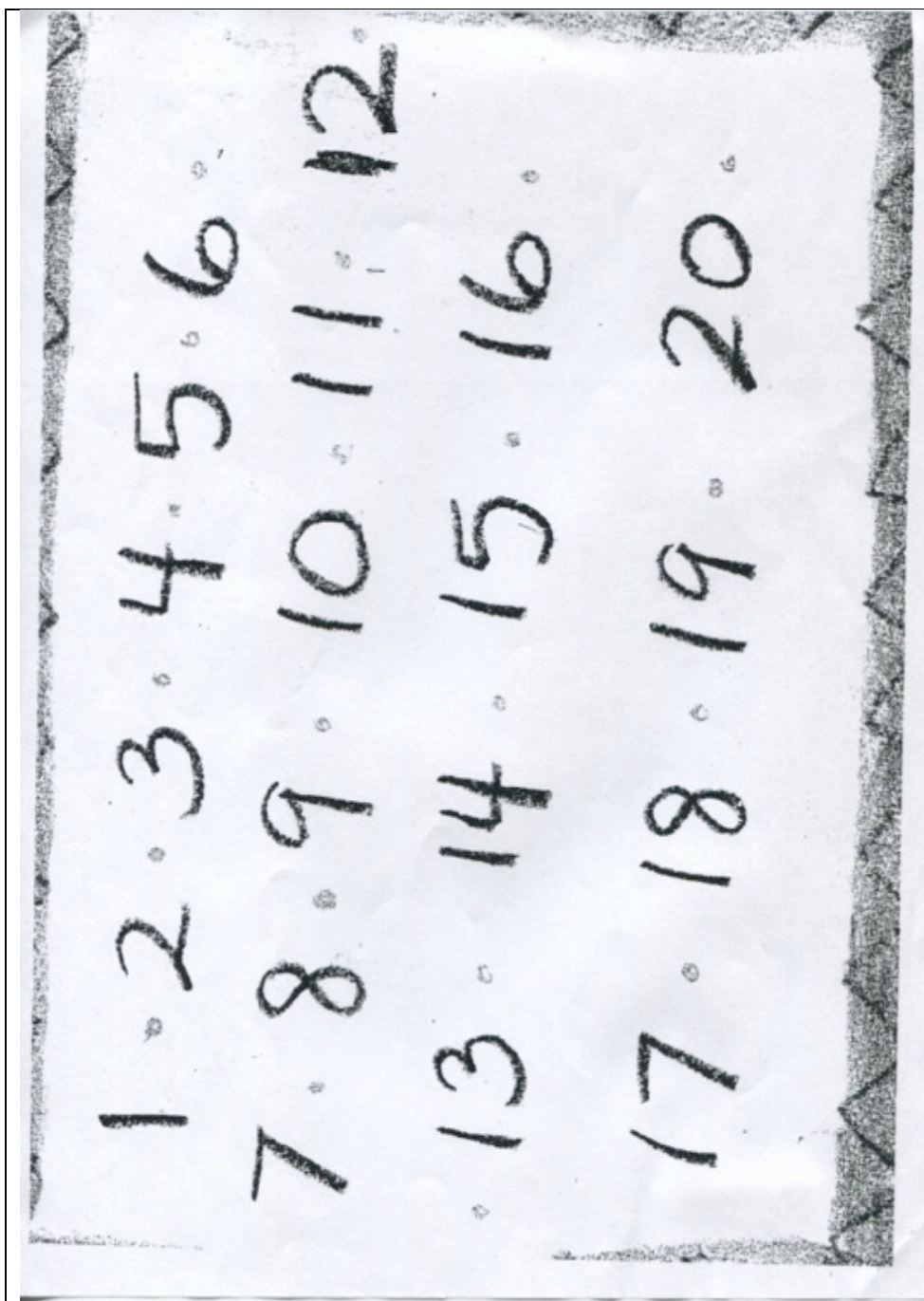
Student asks questions about the natural world

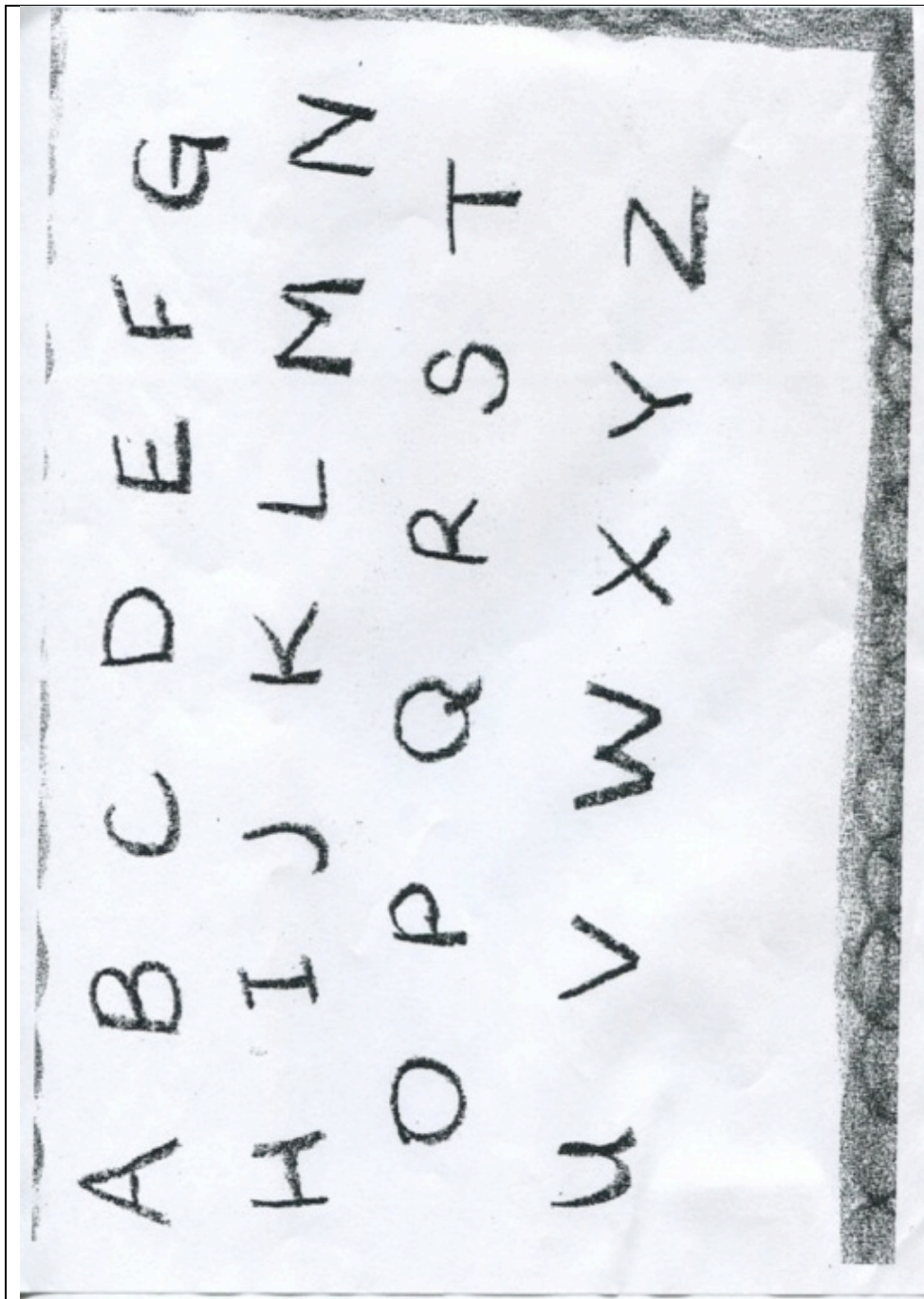
Student can distinguish between living and non-living things (such as man-made objects)

Student can compare objects by physical properties (such as size, length, etc.)

Key: S - Satisfactory DV - Developing NE - Not Evaluated at the time N - Needs Improvement/Date assessment items each session

These are done after picture drawing





see you love
cat the can
go bug on
it dog fun
mom we be
a to and

CATCH THE BALL.
DO NOT FALL! Me
THIS IS FUN. Dad
I LIKE TO RUN.
SEE ME? MOM!

APPENDIX G

CROSS REFERENCE EXAMPLE

Key:

	Teachers' philosophies & beliefs in reference to movement
	Using movement in teaching and learning
	References to the importance of remedial work
	References to proper posture for learning
	References to mid-lines and retained reflexes

Training	Beliefs	Practice	Implementation	Philosophy
"I was told in Waldorf training, never leave them out, never come out with the arms above the head, out, and expect them not to be falling and rolling on the ground."	Young children learn with their bodies, they learn with movement	"I bring enthusiasm for movement...when teaching poems. just add those extra movements, a little bit of eurhythmy."	Being wiggly, bent over, leaning etc... means your not ready for academic information	"I believe that (movement) is all a precursor for the academic learning. I believe before they can go up into their brain, they have to be in their bodies and the way they're going to get in their body is by movement."
Waldorf Lecture: Nancy Pore about movement in the kindergarten (circle work)	"I think the more movement we can do with children, the healthier our children are gonna be."	"I see the morning activity like a funnel. We do really big movements and we come smaller - music, speech, math, etc... So when we sit down we are ready to work."	Young children learn with their bodies, they learn with movement	"I believe in Waldorf. I believe in the movement part of it extremely...there is an established Waldorf curriculum, but I am encouraged that there is an open-mindedness to other things."
Waldorf: "I learned more about why certain children will do certain movements or won't do certain movements - connecting movement to constitution, sensory defensiveness, or temperament."	"As far as movement goes...comparing public schools...children are made to sit at the desks...no moving around. There's nothing going on there. As compared to us, we are moving constantly. Even if it is just walking around."	Circle: Starts with only 10 minutes of movement. Teacher adds verses, songs or mini-stories to lengthen it to 30 or more minutes long	Circle: Students make circle around desks.	"Movement and learning do go hand in hand."
Waldorf: Taught to create circles with movement incorporated	"Children are not getting what they need (movement)."	Circle: "It goes for about 45 minutes."	Circle: Students move desks to sides of room to create movement space	"We will put things out there (playground) with intention for hoping that (the children) will make certain movements." High/Scope Educational Research Foundation
Joan T.: "I'm learning more about this." Retained Reflexes	"I am grateful to be at a school that encourages this type of movement...that they are allowed to have this time and to be young and to be a child." High/Scope Educational Research Foundation AND NYTimes	"There's lots of movement in our circle."	Free Play - Indoor: 45 to 60 minutes 20 times. High/Scope Educational Research Foundation	Because the students do so much wiggling, leaning, etc... is why I do movement with them to re-organized them
Joan T.: "We are seeing so many children not able to cross the midline (LF to RT), not able to do eye hand coordination."	"I think movement is important, well because our culture is such a sedentary one."	Free Play - Indoor: Students clean up room High/Scope Educational Research Foundation	Free Play - Outdoor: 60 to 90 minutes 20 times High/Scope Educational Research Foundation	Childhood beliefs of activity and play influence beliefs of why children need to play. ALL TEACHERS COMMENTED "It's not like it was when we were kids, when you could expect to have an hour or so every day to play and explore," she said. "That kind of time just isn't there anymore." Almon, J. & Miller, E. 2011 p.1 AND NYTimes
Joan T.: Spelling for remedial students S,V,P, & H	"If we (teachers) are not bringing that and moving that with enthusiasm, they're not really learning it."	"I am doing more hand gestures with the verses in the morning."	Morning Circle: SEE NOTES (C3 - C7) K 20	Children who have not experienced the correct movement "help" will not be able to: sit still and focus. They will make other choices to avoid the struggling with focusing.
Retained Reflexes - Children who sit on their feet, wiggle, sway can not control their actions until they have worked through these	"Recess is so important. I try not to get in the middle of their play." High/Scope Educational Research Foundation	"I would like to work with each child individually during the recess loss time: bean bag exercise."	Circle: SEE NOTES K-20, 1st - 8, 2nd - 4, 3rd - 7 TOTAL = 39	Controlling your own physical movements brings physical organization
Retained Reflexes - Janet Oliver (neurologist) Weekend workshop on how to work through retained reflexes	"They (children) were meant to move, and we can't restrict that because we take something of their very essence away." High/Scope Educational Research Foundation	"We have the individual jump ropes. We watch to see if they're using one foot or two feet...two feet their still in a stage of symmetry."	Obstacle course: balance beam, stepping stones, trampoline, stump, plank leaning on hay bale	Finding yourself within space is important for grounding a child's thoughts and actions High/Scope Educational Research Foundation
Retained Reflexes - Joan T.: Children who skip stages of physical development show signs of not being able to sit in a chair and not being able to use their left and right body separately.	Organization of the body movements correlates to organization in the brain.	Circle: "We have this 12' round rug, we really cannot skip or crawl or gallop or anything like that within the circle here."	Teacher plays on obstacle course to set example for students to follow.	"I believe that (movement) is all a precursor for the academic learning. I believe before they can go up into their brain, they have to be in their bodies and the way they're going to get in their body is by movement."

<p>The reflexes of the baby may still need to be work on or out in order for the child to progress. "Learning how to walk before you can talk." (Joan T.?)</p>	<p>"They get their recess here."</p> <p>High/Scope Educational Research Foundation</p>	<p>First Grade Readiness: "...balancing on one foot, okay what is the protocol here? How long should a child be able to balance on one foot? Is it okay for them to touch down very two seconds? Is it not? Should they be able to keep their foot up while they do half the ABC's? So for me I have that question too."</p>	<p>Closing Circle: 2 to 3 verses/songs SEE NOTES K-20</p>	<p>Free Play: "It just moving around and the jumping, kind of getting them incarnated for that day in their bodies." High/Scope Educational Research Foundation</p>
<p>Teacher notes her circle is not going well. "I must talk to Joan T. I don't know what to do?"</p>	<p>"What I want the children to be able to do is be in control of their movement and have their movement be purposeful."</p>	<p>Said to the students, "Sometimes we feel like we need to move, and this what this chair is for, this can help us, cause we can move a little bit, but we can't tip too far or what will happen?" Single pole stool.</p>	<p>"I want all 1st graders ... like "Rain Babies" back to their desks." after story in back of room</p>	<p>"I watch how they go across (balance beam). Do they go forward? Are they walking side to side? Do they go very fast to just get over it?"</p>
<p>Singing: RSC music teacher - "Standing still while singing is best. Moving to speech is better."</p>	<p>Academics come from internal organization (physical)</p>	<p>"I am currently doing less gross motor skill movements than normal." No reasoning.</p>	<p>Play recorders: Finger exercises and songs</p>	<p>"I am looking if they can hop, skip, and jump."</p>
<p>"Training (ASU) mostly focused on pencil grip. They (students) have good pencil grip. I am attributing that to probably their kindergarten teachers."</p>	<p>Children who are wiggly, leaning, falling down or can't sit still have not learned to control their body or physical space around them.</p>	<p>Retained Reflexes: "I want to start doing more research about when I do my first grade assessment, I know what I'm watching for but I don't know what it means if they do that."</p>		<p>"So there's a lot of balance. I'm looking for balance. Hopping, skipping, jumping during play."</p>
	<p>Doing the movement with a struggling student is better than explaining it verbally</p>	<p>Children struggle to play recorders due to crossing midlines with fine motor skills</p>		<p>Free Play: "...jump rope, all the things that are bringing them right into their bodies- so they can do the work of the circle."</p>
	<p>Having a "solid foundation in movement" allows the child to live without anxiety that could arise due to being too conscious of their physical needs.</p>	<p>Pounding one hand over the next in front of the chest to represent work - brings the child to the midline</p>		<p>Free Play: "They will do that jumping, hopping, skipping, that hard work and it also strengthens the will forces." High/Scope Educational Research Foundation</p>
	<p>It is extremely important in the early years that children move in school - they are not getting that at all.</p>	<p>"No leaning!"</p>		<p>First Grade Readiness: "We are looking for balance, rhythm and memory. If they have retained reflexes from early years, looking how to remediate that."</p>

<p>Children who move well and are balanced in their own bodies seem balanced as a whole, individually, academically, socially. Balance in their bodies seems to be ripe - ripe for education."</p>	<p>"Stand straight and tall."</p>	<p>Retained Reflexes - affect balance</p>
<p>"Tossing a bean bag in a rhythmic pattern helps with reading. Placing a bag on the head and balancing it also helps"</p>	<p>"Today a couple of them needed me to adjust the way they were sitting, sitting on their legs in their chairs. I had to go over and adjust their posture."</p>	<p>Retained Reflexes: "Allowing all the movement, it's helping to eliminate those retained reflexes, which will block or hinder their academics."</p>
<p>Free Play: In this activity, children would do all of these movements naturally (Retained reflexes & body development) High/Scope Educational Research Foundation</p>	<p>All students must have their toes forward and feet together to start circle. It is a tactile thing that the students can "feel"</p>	<p>Retained Reflexes: "We are seeing a lot more retained reflexes. Reflexes that babies have that should be gone within the first year."</p>
<p>Retained Reflexes: "It comes from our culture, our kids in car seats and non movement."</p>	<p>"Books flat on the desk. Feet flat on the floor. Sitting up straight to work."</p>	<p>"I am looking at their movements to see if they're crossing a midline, the horizontal, and vertical midline."</p>
<p>Crossing midlines are important for physical growth that influence academic growth</p>	<p>"Can they (students) stand up straight? Can they stay on the bottom row? Things I look for, it's a regular thing - couple times a week."</p>	<p>Crossing midlines helps with reading - tracking</p>
<p>Standing and/or sitting up "straight & tall," ability to hold one's own body is a priority for the young child to master in order to begin their academic learning</p>		<p>Eye tracking, crossing midline (LF to RT), balance</p>
<p>Purposeful work. Sitting properly in a chair, passing items at snack, talking properly to neighbors at snack.</p>		<p>School Tour: Retained reflexes - climbing, crossing midline, jumping, skipping, running all help</p>
<p>You have options in learning if you are standing still and ready</p>		<p>Students lose their place when copying from board - Eye muscles not oriented - exercises in crossing midlines helps</p>

"All Stand up straight and strong."

"Hands on desk. Crossed or folded. Quiet."

"I sit properly for writing."

"I'm thinking of 1st grade, oh no, these kids are gonna be in a lot of trouble, they're not gonna be able to sit still, not going to be able to do the work"

"Keep your feet together. They do not move." (While rods are being passed around circle.)

"Stand straight and tall, no leaning, hands out of sleeves." 4 times

"Standing on your own two feet. That is Waldorf."

"The rod is just like your back. Perfectly straight."

Purposeful work: Sitting properly in a chair, passing items at snack, talking properly to neighbors at snack.

School Tour: Working on helping children with crossing their midlines

"Boys no leaning on the wall. Standing on your own."

Teacher reminds students to stand Straight and Strong.

"Make a very straight line along the blackboard."

"If you are ready, your feet are side-by-side, just like a brother and a sister."

"I want to see a beautiful straight line."

"Feet together and arms across your chest."

Research Questions

Unhealthy sedentary lifestyles and the decreasing emphasis on physical activity/movement, what can be learned from ways in which movement is enacted in Waldorf education (practice)? B5, B7, B10 Answer in Chapter 4

What movement practices do the Waldorf teachers incorporate into their curriculum (as identified in participant observation)? ALL of D

What beliefs and philosophical underpinnings related to the value of movement are guiding Waldorf teachers' practices as they carry out their curriculum in the classroom? SEE Common Thoughts

In reference to movement implemented by the Waldorf teachers, what effects on the children are observable by the researcher? SEE Column H

Common Thoughts

Having a healthy body is a precursor to academic learning. E2, E8, E10, E11, B13, B14, B16, B17

Controlling one's body is important in learning FOR learning. A9, A11, A14, A15, B19, B23 to B3, C18 to C23, E20, E28 to E33

Retained Reflexes are important to address in the young child. Helping the child to "move through these skipped stages helps children to move onto academics (Focus?) B21, B22, C15, D13, E18 to E21

Teaching children to cross midlines (all) helps the child with academic abilities. B23, B24, C16, C17, E22 to E27

Effects on Children

Pleasant atmosphere to be in. No pressure. Predictable events in day (rhythmic). No yelling. Shake hand of teacher every morning (1st - 3rd)

Socially aware of others in room. Sharing of materials. Sharing materials. Inviting to new comers (students/teachers). Personal space respected!

Positive attitude towards participation. Takes teacher(s) very little effort in getting the students to be quiet and listen. Students offering to help with enthusiasm. No verbal or physical display of negativity towards doing work (1st - 3rd).

Students not assessment driven to achieve. No formal reading in Pre & K - 1st & 2nd still in learning phase of reading. (This is shifting due to school changing its charter status.)

Free Play is a "main staple" of early childhood curriculum at DMS. Preschool/Kindergarten 2 x 20 = 40 sessions & 2nd - 3 sessions (painting)

Circle movement activities are a "main staple" of early childhood curriculum at DMS. K- 3 x 20 = 60, 1st - 9, 2nd - 4, 3rd - 7 TOTAL = 80

Length of circle time each day: K - Morn = 5 to 8, Circle = 15 to 40, Closing = 5 to 7: 1st = 25 to 30, 2nd = 20 to 25, 3rd = 15 to 25.

Recess (Related to Free Play) is important for children to have. B9, B12, E5

APPENDIX H
FIELD NOTE EXAMPLES

Kindergarten Example

11/10/11 Katie - Assistant

8:05 Ss arrive slowly coming in
- Parents come in (Ss then "feeling" comfortable)

- S (girl) arranges chairs around table
- No awkward hello!

- * A lot of students for such a small table

- Ss go outside to play

- A preps food + kitchen

- T and A talk about the day

8:20 Ss "rally" start to arrive
Ss - All extremely active?
- Lots of running, jumping, voices loud.

T greets Ss as she sees them

Ss - Apparent in actions, conversation
* Abilities that this K is older than the other K

* Yard looks like a park w/ children + parents

11/10/11

Susan

Tried to bring in games
- Red Rover
- Tag
- Freeze Tag

* Found that the Ss don't have much interest in something she would like to see happen
* Teacher played freeze tag with class on Tue?

8:40 T - Sings to gather Ss under overhang (Both Kindergartens)
Ss - Circle song All
- Holding hands

T - Sings verses of S's not under overhang - Remind them to come

* Parents still here
- Participating in circle

* I can hear myself...
* Good Morning Dear Earth...
- All gestures represent the words in the verse/song.

11/10/11

* Greeting Verse
- Here I stand...
- Good morning to you...
- Walking clockwise

- Good Morning, Good Morning, Cloudy morning

* All great teachers + Parents + Sunflowers + Starflowers

T - Announces why certain teachers are not there
Verse - Good wishes to...
up + down (as if lifting something)

T - Announce helpers for the day (Both classes)
- "Everyone else may go play"

8:55 - Morning circle ends
- Parents leave

* Younger siblings where to stay 3-4 of them

very top 11/10/11

- Boy climbs on top of Monkey Bars

- 2 girls sit at table w/ me

- They play Rock/Paper/Scissors

- 2 Boys get intrigued they start up a game of their own
- Much rougher + not as focused

- 2 other boys, 1 girl watch!

T - Pours out Tea for Ss
- They (Ss) choose cups to use

- Entire group sits together and play the game

* One boy gets very loud!
- Girls ignore him! Keep playing

T - Serves tea
- Ss need to be sitting to have

* - S (Boy) "I love Kindergarten Tea!"

⑤ A
11/10/14

T - Actions are slower - deliberate
* Speech is slow & direct w/ lots of pauses

[Inside] 9:37
- A asks Ss what type of job they want to do.
- T talks to A about giving them instructions. T says to assign them the task.
* Boy gets mad & he doesn't get the task he wants
- T ^{helps} boy to understand. Holds on lap & talks.
* Only gives 2 choices!
* A is Sub for a few days - Still learning & training

[9:14] T - Clang painting boards outside while watching Ss.

⑥ A
11/10/14

Goal Ss use tongs/picks a lot today
- A has been formal
- Almost center of attention
- Others swing, dig, up, put, climb, etc...

* Other T asks T about how to paint w/ Ss
- Use all 3 primary?
- Only Red & yellow?
- Boy stands on ledge (3' high)
- Tries to reach for tree branch
- Very pleased b/c was able to do it.
- Jumps down. Hiding under bench
- Has to tell teacher!

9:28 School Time
T needs to talk to group
- Asks A to take Ss outside
- Adult setting

⑦ A
11/10/14

T - Tells her background
- Talks about Waldorf
- Child Development (Focus)
- Talks about classes in cages
- Imaginative Play
- Not verbal?
- Does not use too many gestures
- Actions to instructions
- Imitation
- Rhythmic (work, daily, seasons)
- Repetition - Color Talks what the day holds
* What activities will happen

- Play outside 1:15 to 1:45
- Movement
- Small "Who is able to"
- Large "Hup?"
- Verse Skip?
- Song Jump?
* Uses outside to have more space to move

⑧ A
11/10/14

- Snack Quiet / Reorient
- Clean own dishes
- Practical tasks important
- Sweeping (Her)
- Toys
- Wooden
- No Plastic
- Loft is the library
- Coloring everyday
- Pencil grip
- Sewing
- Mitten / Pedestal (Eggs)
- Mid lines, Important
- Bending over
- Painting - Once a week
- Finger Knitting
- Ropes used in room made
- Wool making (Yarn + Felting)

* Prepare them for 1st grade
- G by April 15th
- Price usually ok
- Around that date they are

Grades Example

28 of 28 students (1) A
11/30/11

8:25
T- Props for day
- 24 students in class
- Could take on 3 more
BUT T- feels it is too hard to take on students during the semester
- Should be at beginning of each semester

*Board
- Spelling words
- Birthdays (month)
- Reminds (this needed)
- Picture - Farm + wild life
- Math - Any even # can be \div by 2
Even #'s end in 2, 4, 6, 8 + 0
- Daily schedule
- Cursive writing examples

8:30 Bell rings
T- Shakes Ss hands at door
- Greets each S - Some with personal questions + shake hands
S- put things away in cubbies
- Sit at desks

(2) A
11/30/11

Ss - talking while taking chairs down
T- Sings go to your desk

T- Sings attendance
S- response back singing
Ss- respond if S is not here
Ends with entire class

T- "lets quickly correct our math homework"
- Use Red or Orange pencil to correct

9:37 Quiet in room as Ss are called on individually to answer

Answers 1) 100 3) 100 5) 2022
2) 100 4) 111 6) 33353

T- walks around to see pages
Then collects them
T- Put pencils away Ss sing
T- Ask S to come light a candle
- Boy 2 struggles to strike match
- T shows him how!

11/30/11 (3) A

- All desk cleared
T- "Stand silently"
Ss- Do just that!

* The Sun with loving light...
- Ss are to stand still
T- Reminds some Ss to be still

T- Describes how to sing a round
- All rounds are making...
- Round sang by rows
- Ss to face left side
T standing on that side

9:45 T- "I would like you to face the east."
Ss- Turn to back of room
T- "OK turn to the south"
Ss- Singing new song
- Jewish song?
- They continue sing facing each direction

T- Explains that jump rope will not take place
Instead a circle will be done

11/30/11 (4) A

T- "We will use Everything I've order"
Ss- move desks to outer edge of room WHILE singing
* large open space created

8:50
* Clapping + Stamping rhythm
Singing along
- Clap } Done on beat
- Stamp legs }
- Stamp Rt foot }

* Walk in circle (counter clockwise)
- 8 steps counting
- 8 steps backwards
T- "Hands out of your pockets"
- "make circle bigger"
Repeat BUT on 8th step
No speech
- Repeat But on 7th + 8th no speech
- Repeats clapping until stopping without counting out loud

11/30/11 (5) A

* T- 4 tables w/ partner
 Slapping - Slapping

- Slapping legs
- Clapping
- Slapping partners hands
- Clapping
- Slapping legs

* T- Now 6 tables
 Repeat movements w/ 6 tables

Verse
 "30 is 6 x 5 - 6 x 5 is 30"

9:00 * T- "Brave + True verse"
 Ss - Say it without movement

T- Explains actions

- 1) Rt hand slaps leg as leg is lifted
- 2) Lf hand slaps leg as leg is lifted
- 3) Slap partners hand with opposite hand
- 4) Partners mirror each other

11/30/11 (6) A

5) 2 circles/inner + outer
 6) Outer starts on Rt side
 Inner starts on Lf side

T- "Go back to place in circle"
 - Gets basket of bean bags

* T- Stands in center + tosses to each S
 - Ss place it on top of hand

T- "Let's make it really round"
 - Goes around to adjust Ss
 - "Drop bean bag into your net (hands)"

T- "BB in Lf hand"
 - "Take small step in" Shoulders

- Pass to Rt hand
- Pass to Ss Lf hand on Rt
- Counting 1, 2, 3
- 1 = Lf hand
- 2 = Pass to Rt hand
- 3 = Pass to Lf hand of neighbor
- Silent counting 1+2
- Say 3rd #
- 3 Times tables

11/30/11 (7) A

9:12

T- "We should be doing the claps into neighbors hand at same time"
 T- "We will do 6 tables"
 - Double move until they get to 6-12-18-24 etc...

T- "Toss them into basket"
 "Count by 6 as each of you toss them in."
 (Basket in center of circle)

T- "You guys are great!"

* T- "Sing Blow - Blow as we put our desks back in order"
 * Takes 1 minute to get back to desks

9:17

T- "Everyone stand up"
 T- Sing 'Rise oh Rise' (Jewish)

* T not that clear in singing?
 BUT Ss very good

11/30/11 (8) A

? Need clarification from Pax

* T- "Using Lf hand"
 Tongue Twister - Windy Wood
 - Lf hand circles in air away from them (Forward)

- "Should she shine shoes"
- Slapping as hands go forward
- One hand on top then switching

9:24

T- "Please take your recorders out" "Not playing yet"
 "Standing!"

T- Waits for class to be quiet
 - Takes 10 seconds!

T- "Stand some where you can see my hands."
 "If you are wiggling others behind can not see!"

T- Plays - Finger exercises (Scale)
 Ss - Repeat
 - Many variations done

T- "I am going to go straight up.
 Please listen first."

APPENDIX I

PHOTOS

Classroom Layout Photos

Outdoors.

	
<p>Kindergartens: Entrance</p>	<p>Benches in Front of Kindergartens</p>
	
<p>Playground Looking at Kindergartens</p>	<p>Play Structure</p>
	
<p>Digging (sand) Pit</p>	<p>Outdoor Play Yard</p>

	
Climbing Tree	Garden Boxes

Kindergarten one.

	
Kindergarten 1	Kindergarten 1: Circle rug
	
Kindergarten 1: Exit to Playground	Kindergarten 1: Play Area

Kindergarten two.



Kindergarten 2



Kindergarten 2: Circle Rug



Kindergarten 2: Exit to Playground



Kindergarten 2: Blocks

First grade.



First Grade - Front

Second grade.

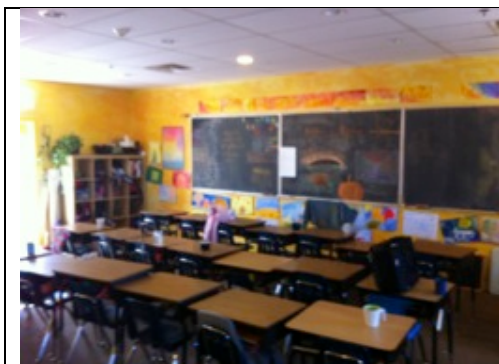


Second Grade - Front

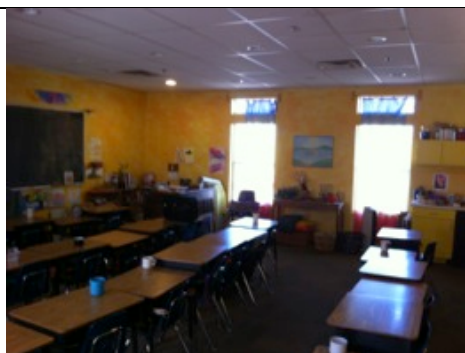


Second Grade - Front

Third grade.





Third Grade – Front



Third Grade - Front

Eurythmy.









Eurythmy Rod Circle	Eurythmy – Tone Expressions
	
Eurythmy – Follow the Leader	Eurythmy – Alphabet Gestures

Handwork.



Movement props.



Balance Beam	Jumpropes
	
One Legged Stool	Small Rubber Balls
	
Air Filled Seat Cushion	Rocker Balance Board
	
1 Foot Wood Rods	Copper Rods & 1 ½ Foot Wooded Rods

APPENDIX J

ARIZONA STATE UNIVERSITY IRB APPROVAL LETTER

To: Elaine Surbeck
Farmer

From: Mark Roosa, Chair
Soc Beh IRB

Date: 10/19/2011

Committee Action: Exemption Granted

IRB Action Date: 10/19/2011

IRB Protocol #: 1110006979

Study Title: Taking Action! The Effects of Meaningful Movement for the Kindergartener Through Grade Three Learner: A Case Study of a Waldorf Education Early Childhood Program

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(2).

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.

BIOGRAPHICAL SKETCH

Andrew Darian is a veteran Early Childhood and Elementary teacher who has taught in both public and private school systems, including Waldorf Schools. Andrew earned a B.A. in Elementary Education and B.S. in History at the University of Wisconsin – Madison, Masters of Curriculum and Instruction at Ottawa University, and Ph.D in Early Childhood Education at Arizona State University. In the fall of 2012, Andrew joins the faculty of Education at Lebanon Valley College in Annville, PA.